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Part II

# Environmental Protection Agency

40 CFR Part 82

Protection of Stratospheric Ozone; Proposed Rule

**ENVIRONMENTAL PROTECTION AGENCY**

**40 CFR Part 82**

**[FRL–4126–1]**

## Protection of Stratospheric Ozone

**AGENCY:** Environmental Protection Agency (EPA).

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** In this document EPA proposes to require warning labels on containers of, and products containing or manufactured with, certain ozone-depleting substances pursuant to section 611 of the Clean Air Act, as amended. EPA also proposes to require permanent labels on products containing ozone-depleting substances that can be recovered or recycled pursuant to section 608 of the Clean Air Act, as amended. The substances affected by this proposed rulemaking include both class I chemicals (chlorofluorocarbons (CFCs), halons, carbon tetrachloride, methyl chloroform) and class II chemicals (hydrochlorofluorocarbons (HCFCs)).

**DATES:** Written comments on this notice must be submitted on or before June 3, 1992 if no hearing is held, or June 18, 1992 if the hearing is held. If requested by May 11, 1992. EPA will hold a public hearing on this notice on May 19, 1992. The information contact person listed below may be called regarding a public hearing.

**ADDRESSES:** Comments should be submitted in duplicate to the attention of Air Docket No. A–91–60 at: U.S. Environmental Protection Agency (LE–131), 401 M Street SW., Washington, DC 20460. The Docket is located in room M–1500, First Floor Waterside Mall and materials relevant to this rulemaking may be inspected from 8:30 am. to 12 noon and from 1:30 to 3:30 p.m. Monday through Friday.

**FOR FURTHER INFORMATION CONTACT:** Martha Dye at (202) 260–6974, Stratospheric Ozone Protection Branch, Global Change Division, Office of Atmospheric and Indoor Air Programs, Office of Air and Radiation, ANR–445, 401 M Street SW., Washington, DC 20460.

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## I. Background

### *A. Overview of the Problem*

The stratospheric ozone layer protects the earth from the penetration of harmful ultraviolet (UV–B) radiation. A national and international consensus has developed that certain industrially produced halocarbons (including chlorofluorocarbons (CFCs), halons, carbon tetrachloride, methyl chloroform and hydrochlorofluorocarbons (HCFCs)) can transport chlorine and bromine to the stratosphere and there contribute to the depletion of the ozone layer. To the extent depletion occurs, penetration of UV–B radiation increases, resulting in potential health and environmental harm including increased incidence of certain skin cancers and cataracts, suppression of the immune system, damage to crops and aquatic organisms, increased formation of ground-level ozone and increased weathering of outdoor plastics.

### *B. Federal Action Regarding Aerosols Containing CFCs*

Following initial concerns raised by research scientists Mario Molina and Sherwood Rowland in 1974 regarding possible ozone depletion from CFCs, the Food and Drug Administration (FDA) and the Consumer Products Safety Commission (CPSC) required marketers and importers of self-pressurized medical and consumer products that use a chlorofluorocarbon propellant to label their products with a warning that such products may harm public health and the environment by reducing ozone in the upper atmosphere. (See April 29, 1977, 42 FR 22018; and August 24, 1977, 42 FR 42780.) During the mid-1970s, aerosol propellants constituted over 50 percent of the total CFC use in the United States.

On March 17, 1978 (43 FR 11301; 43 FR 11318) EPA and FDA banned the use of CFCs as aerosol propellants in all but "essential applications." The 1978 ban reduced aerosol use of CFCs in this country by approximately 95 percent, cutting total U.S consumption nearly in half.

In the years following the aerosol ban, CFC use increased significantly in the refrigeration, foam and solvent-using industries. By 1985, CFC use in the United States had surpassed pre-1974 levels and represented 29 percent of total global CFC consumption.

### *C. Montreal Protocol*

EPA evaluated the risks of ozone depletion in Assessing the Risks of Trace Gases That Can Modify the Stratosphere (1987) and concluded that an international approach is necessary to effectively safeguard the ozone layer. Because releases of CFCs mix in the atmosphere to affect stratospheric ozone globally, efforts to reduce emissions from specific products by only a few nations could quickly be offset by increases in emissions from other nations, leaving the risks to the ozone layer unchanged.

Recognizing the global nature of this issue, EPA participated in negotiations organized by the United Nations Environment Programme (UNEP) to develop an international agreement to protect the ozone layer. In September 1987, the United States and 22 other countries signed the Montreal Protocol on Substances that Deplete the Ozone Layer. The 1987 Protocol called for a freeze in the production and consumption (defined as production plus imports minus exports of bulk chemicals) of CFC– 11, –12, –113, –114, –115, and halon 1211, 1301 and 2402 at 1986 levels, and a phased reduction of the CFCs to 50 percent of 1986 levels by 1998. Currently, 75 nations representing over 90 percent of the world's consumption are party to the Protocol.

In its August 12, 1988 final rulemaking (53 FR 30566), EPA promulgated regulations implementing the requirements of the 1987 Protocol through a system of tradable

allowances. EPA apportioned allowances to producers and importers of these "controlled" ozone-depleting substances based on their 1986 levels. To monitor industry's compliance with the production and consumption limits, EPA required recordkeeping and quarterly reporting, and conducted periodic compliance reviews and inspections.

*D. Excise Tax*

As part of the Omnibus Budget Reconciliation Act of 1989, the United States Congress levied an excise tax on the sale of CFCs and other chemicals which deplete the ozone layer, with specific exemptions for exports and recycling. The tax went into effect on January 1, 1990 and has operated as an extremely useful complement to EPA's regulations limiting production and consumption. By raising the costs of using virgin controlled substances, the tax has created an added incentive for industry to shift out of these substances and increase recycling activities, and provided a market for alternative chemicals and processes. The original excise tax was amended by the Internal Revenue Service (IRS) in 1991 to include methyl chloroform, carbon tetrachloride and the other CFCs regulated by the amended Montreal Protocol and title VI of the Clean Air Act Amendments of 1990.

*E. London Amendments to the Montreal Protocol*

In response to overwhelming scientific evidence of greater than expected stratospheric ozone depletion, the Parties to the Protocol at their second meeting held in London on June 29, 1990 revised the Protocol to require a full phase-out of the regulated CFCs and halons by 2000, a phase-out of carbon tetrachloride and "other CFCs" by 2000 and a phase-out of methyl chloroform by 2005. The Parties also passed a non-binding resolution regarding the use of hydrochlorofluorocarbons (HCFCs) as interim substitutes for CFCs. Partially halogenated HCFCs add much less chlorine to the stratosphere than the fully halogenated CFCs, but still pose some threat to the ozone layer. (See 56 FR 2420; January 22, 1991 for more information on the relative effects of different ozone-depleting substances.)

*F. Clean Air Act Amendments of 1990, Title VI*

On November 15, 1990 the Clean Air Act Amendments of 1990 were signed into law. The requirements in the new Title VI include phase-out controls of ozone-depleting substances similar to those in the London Amendments of the Protocol, although the title VI interim reductions are more stringent and the phase-out date of methyl chloroform is earlier. Unlike the amended Montreal Protocol, the Clean Air Act as amended also requires regulations restricting the uses of controlled ozone-depleting substances, including non-discretionary provisions to reduce emissions of controlled substances to the "lowest achievable level" in all use sectors, to ban nonessential products, to mandate warning labels, and to establish a safe alternatives program.

*G. Subgroup of the Federal Advisory Committee*

In the development of today's proposed regulation, EPA was assisted by a subgroup of the standing Stratospheric Ozone Protection Advisory Committee (STOPAC). In 1989, EPA established STOPAC in accordance with the requirements of the Federal Advisory Committee Act, 5 U.S.C. App. section 9(c). STOPAC consists of members selected on the basis of their professional qualifications and diversity of perspectives and provides balanced representation from the following sectors: industry and business; academic and educational institutions; Federal, state and local government agencies; non-government and environmental groups; and international organizations. Since its formation, STOPAC has provided advice and counsel to the Agency on policy and technical issues related to the protection of the stratospheric ozone layer.

In 1990, members were asked to participate in STOPAC subcommittees to assist the Agency in developing regulations to implement the new requirements of title VI of the Clean Air Act. To date, the full Subcommittee on Labeling has met twice, and smaller "use-sector" working groups have met ten times, reviewing two in-depth briefing packets (contained in the docket) and offering comments and technical expertise on the development of today's proposed rule.

**II. Requirements Under Section 611**

Title VI of the Clean Air Act divides the controlled ozone-depleting substances into two distinct classes. Class I is comprised of CFCs, halons, carbon tetrachloride and methyl chloroform. Class II is comprised of HCFCs. (See listing notice January 22, 1991; 56 FR 2420.) Section 611 specifies labeling requirements for containers of and products containing or manufactured with class I or class II substances. Section 611(a) requires EPA to promulgate final regulations by May 15, 1992. The statutory authority for today's proposal is sections 611, 608 and 301 of the Act, as amended. Appendix A outlines the types of products that would be affected by this rulemaking, but is not an exhaustive list.

*A. Containers of Class I and Class II Substances and Products Containing Class I Substances*

Subsection 611(b) of the Clean Air Act mandates that effective May 15, 1993 "no container in which a class I or class II substance is stored or transported, and no product containing a class I substance, shall be introduced into interstate commerce unless it bears a clearly legible and conspicuous label stating: 'Warning: Contains [*insert name of substance*], a substance which harms public health and environment by destroying ozone in the upper atmosphere.' "

For the purposes of this proposed regulation, the term "container" is considered to mean the immediate vessel of any size in which a controlled substance is stored or transported, including cans, drums, trucks and isotanks of controlled substances alone or in mixtures.

EPA considers the term "product" to mean an item or category of items manufactured from raw or recycled materials which is used to perform a function or task, and the phrase "product containing" to mean a product that physically holds a controlled substance within its structure, or is intended to be charged with a controlled substance, at the point of sale to the ultimate consumer. The phrase "ultimate consumer" refers to the first commercial or noncommercial purchaser of a container or product that is not intended for re-introduction into interstate commerce alone or as part of another product. A purchaser that is not the ultimate consumer of a product might include a wholesale distributor or manufacturer that purchases components from another manufacturer and incorporates them into a larger product.

This proposed definition of "product containing" is consistent with the List of Products Containing Controlled Substances in appendix D of the Montreal Protocol on Substances That Deplete the Ozone Layer, which represents a subset of all products containing controlled substances. (See reference UNEP Memo June 21, 1991.) Examples include, but are not limited to, charged automobile and truck air conditioning units, domestic and commercial refrigeration equipment (*e.g.*, refrigerators, freezers, dehumidifiers, water coolers, ice

machines, and chillers), aerosol products, fire extinguishers, and insulating boards, panels and pipe covers.

*B. Products Manufactured With Class I Substances*

Subsection 611(d)(2) mandates that after May 15, 1993 and before January 1, 2015 this same labeling requirement "shall apply to all products manufactured with a process that uses such class I substance unless the Administrator determines that there are no substitute products or manufacturing processes that (A) do not rely on the use of such class I substance, (B) reduce the overall risk to human health and the environment, and (C) are currently or potentially available." EPA is not today proposing to make a determination regarding the availability of substitutes for any product manufactured with a class I substance. EPA was unable to make any such determination in light of the extremely large number of products and the extent to which available information suggests that substitute products or processes are at least potentially available for all products manufactured with class I substances. The process for submitting petitions seeking to exempt such products from the labeling requirement is discussed in subparts II.D. and III.C. below.

The label for products manufactured with a class I substance is required to state: "Warning: Manufactured with [*insert name of substance*], a substance which harms public health and environment by destroying ozone in the upper atmosphere." Subsection 611(e)(5) states that effective January 1, 2015, the labeling requirements of this subsection shall apply to all products manufactured with a process that uses a class I or class II substance.

Unlike "products containing," neither the Clean Air Act nor the Montreal Protocol provides explicit direction for defining the phrase "products manufactured with." EPA proposes that "manufactured with" shall mean a product which was manufactured using a controlled substance but does not contain the substance at the point of sale to the ultimate consumer. Examples might include products cleaned with solvents, products with adhesives or coatings using solvents, open celled flexible foam, and certain food and tobacco products.

EPA today proposes to exclude from the definition of "manufactured with" incidental uses, *i.e.*, uses where the controlled substance does not have physical contact with the product. Examples of incidental use could include fresh produce stored in a warehouse refrigerated by a CFC system or clothes from a textile mill where the machinery is maintained with methyl chloroform but the clothes do not have physical contact with the controlled substance. EPA specifically requests comment on its proposed definition of "incidental" uses and other uses of controlled substances that could potentially be considered "incidental."

EPA also proposes to exclude from the definition of "manufactured with" those products which result from the transformation of a controlled substance such that the controlled substance no longer poses a threat to the ozone layer. EPA has promulgated specific regulations to phase-out the production and consumption of ozone-depleting substances that address the transformation or use of controlled substances as feedstocks in the manufacturing processes of other substances. (See subpart A in 40 CFR part 82 for further explanation of transformation.) Examples of products that result from the transformation of a class I substance during their manufacturing process include chlorinated rubber, vinyl chloride, and automobile and airplane fuel, all of which use carbon tetrachloride. In EPA's phase-out regulations, transformation is excluded from the definition of production. Similarly, EPA believes that, for the purposes of the labeling requirement, transformation of a controlled should not be considered to be "manufactured with" a controlled substance.

In developing the definition of "manufactured with," EPA has considered the possibility that too broad an interpretation of the phrase could result in the labeling of virtually every product in the marketplace. EPA believes that such a result could render the labeling program ineffectual by overloading the consumer with information and thus diluting the label's potential impact on purchase decisions. Thus, EPA has proposed exclusions from the definition as discussed above.

EPA believes, however, that too narrow an interpretation of the phrase would also impair the intended impact of the program. It appears, for example, that Congress fully intended that labeling under § 611 affect whole use-sectors, indicating the widespread use of ozone-depleting substances in such use-sectors. Use-sector wide labeling would result in an economic incentive for companies to be the first to manufacture the product without using the substances. EPA believes that the proposed definition of "manufactured with," incorporating the exclusions described above, is faithful to the statutory intent of § 611 without being overly broad so as to lead to a universal labeling requirement.

EPA chooses not to further narrow the definition of "manufactured with" by establishing a *de minimis* use level below which labeling would not be required. The rationale behind such *de minimis* use levels is that small amounts do not have an impact significant enough to warrant regulation. However, while many products may have physical contact with insignificant amounts of a controlled substance during their manufacturing process, aggregate use levels over an entire market segment can be very large and thus pose a serious threat to the ozone layer. Alternatively, products in market segments that have smaller aggregate uses level of ozone-depleting substances could be significant users on a per-product basis. As a result, EPA believes exempting *de minimis* use levels from the definition of "manufactured with" would compromise the effectiveness of the program and could thwart the intent of the statute.

EPA requests comment on its interpretation of the phrase "manufactured with" and on the decision not to set a *de minimis* use level.

*C. Products Containing or Manufactured With Class II Substances*

Subsections 611 (c)(1) and (d)(1) mandate that after May 15, 1993 the labeling requirement shall apply to products containing or manufactured with a class II substance "if the Administrator determines, after notice and opportunity for public comment, that there are substitute products or manufacturing processes (A) that do not rely on the use of such class II substance, (B) that reduce the overall risk to human health and the environment, and (C) that are currently or potentially available."

The label is required to state either: "Warning: Contains * * *" or "Warning: Manufactured with [*insert name of substance*], a substance which harms public health and environment by destroying ozone in the upper atmosphere." Subsections 611 (c)(2) and (e)(5) state that effective January 1, 2015, the labeling requirements of this subsection shall apply to all products containing a class II substance or manufactured with a process that uses a class I or class II substance.

EPA is not today proposing regulations to require labeling of products containing or manufactured with class II substances. EPA believes that it is premature to determine the

availability of substitutes for class II substances at this time because that market is just beginning to develop. EPA will determine the availability of substitutes for class II substances in conjunction with the Safe Alternatives Program required by § 612 of the Act (see subpart II.E. below). The process for submitting petitions seeking to add such products to the labeling requirement is discussed in subparts II.D. and III.C. below.

*D. Petitions*

Subsection 611(e)(1) specifically allows any person at any time after May 15, 1992 to petition the Agency "to apply the requirements of this section to a product containing a class II substance or a product manufactured with a class I or II substance which is not otherwise subject to" the labeling requirements. Subsection 611(e)(2) states that "Any petition under this paragraph shall include a showing by the petitioner that there are data on the product adequate to support the petition."

Today's proposed rule specifies the format and substance of the supporting data that EPA would require in order to review and grant petitions to apply the labeling requirement to a product not otherwise subject. The Agency also proposes a process for petitions seeking to exempt products manufactured with a class I substance from the labeling requirement and a similar specification for adequate supporting data. As stated above, products manufactured with class I substances and products containing or manufactured with class II substances are not affected by the labeling requirement if there are no currently or potentially available substitutes that reduce the overall risk to human health and the environment. (See subpart III.C. below.) EPA requests comment on the tying together of the exemption criteria for section 611 with determinations under section 612.

*E. Relationship to Sections 608 (Emissions Reduction) and 612 (Safe Alternatives)*

EPA believes that the requirements of Sections 608 (National Emission Reduction Program) and 612 (Safe Alternatives) are relevant to today's proposed rule.

Section 608(a)(3) requires EPA to promulgate regulations that reduce emissions of controlled substances to their "lowest achievable level" and maximize the recapture and recycling of such substances. EPA believes that requiring permanent labels on products containing recoverable ozone-depleting substances would be an effective way to inform servicers and disposers of the potential for recycling. (See subpart III.B. below.) EPA therefore believes that the authority under Section 608 may be exercised in a manner that complements the requirements of Section 611 for providing information about recycling through labeling. EPA cites the rulemaking authority of Section 608 in support of today's proposal to promulgate labeling regulations for products containing recoverable controlled substances.

Section 612(c) requires EPA to promulgate regulations by November 15, 1992 making it unlawful to use any substitute for a class I or class II substance which may present adverse effects to human health or the environment, where EPA has determined that there are currently or potentially available alternatives that reduce the overall risk to human health and the environment. EPA is also required by 612(c) to publish a list of prohibited substitutes and a list of corresponding acceptable alternatives. Section 612(d) outlines requirements for a petition process to add or remove substances from either of the two lists. EPA believes that determinations made under Section 612 will likely have a direct impact on the labeling requirements under Section 611. The criteria for determining whether a product has an acceptable substitute is identical in both Sections 611 and 612. (See subpart III.C.1.a. below.)

## III. Proposed Rule

*A. Warning Label Requirements*

EPA today proposes to require warning labels on containers of class I or class II substances and on products containing or manufactured with class I substances, pursuant to Section 611 of the Clean Air Act, as amended. EPA believes that Congress intended the labels required by Section 611 to inform the ultimate consumer at the time of purchase decision whether a product or any of its components contains or was manufactured with an ozone-depleting substance so that the consumer, if he or she were so inclined, could choose products that do not use ozone-depleting substances. The increased ability of consumers to express a preference for products not using controlled substances would create a market-based incentive for manufacturers to find and utilize substitutes for ozone-depleting substances that reduce the overall risk to human health and the environment. Where opportunities for substitution away from ozone depleting substances exist, the labeling requirement might aid pollution prevention by encouraging the reduction or elimination in the use of ozone-depleting substances at the source of their use in the manufacturing process. In order to carry out Congressional intent, EPA believes that the warning labels must be carried through the stream of commerce to the ultimate consumer.

EPA requests comment on its interpretation of Section 611 and its emphasis on informed purchase decisions by the ultimate consumer. EPA's proposed regulations reflect this interpretation and attempt to establish a program that is meaningful both to consumers and to manufacturers.

This part of today's notice proposes regulations for the text, placement and form of the warning labels on containers of and products containing or manufactured with ozone-depleting substances as required by Section 611. This part also proposes guidance for alternative placement of the required label, clarifications regarding stream of commerce issues for labeled products and containers.

1. Text of Warning Statement

Section 611 requires that a warning label accompany all affected products and containers and state that the item contains or was manufactured with an ozone-depleting substance and which particular substance was used. (See subparts II.A., II.B. and II.C. above.) Since Section 611 is very specific about the text of the required warning statement, the Agency proposes only two further clarifications under the authority of Section 301(a), which provides EPA with general rulemaking authority to carry out the Agency's functions under the Act.

First, EPA proposes that the substance named on the label following the words "Contains" or "Manufactured with" must be a standard chemical name (*e.g.*, chlorofluorocarbon-113, halon 1211, *etc.*) as stated in the listing notice published in the **Federal Register** on January 22, 1991 (56 FR 2420). EPA believes that warning statements with trade names like "Freon" or abbreviations like "R" for refrigerant would be unnecessarily confusing to consumers, and thus would not fulfill the goal of the labeling requirement. For example, if the label on a consumer product that might include chlorofluorocarbon-12 or hydrochlorofluorocarbon-22 was labeled simply as "Freon," the consumer would likely miss the important distinction between the use of a class I CFC and a less harmful class II HCFC. EPA proposes that only the following two commonly used acronyms be permitted as substitutes for the standard chemical name on the label: "CFC" for

chlorofluorocarbon; and "HCFC" for hydrochlorofluorocarbon. EPA believes that, unlike trade names or abbreviations, these acronyms describe the relevant chemicals in a way that they can be recognized by the average consumer. In addition, EPA proposes that only the common commercial term "1,1,1-trichloroethane," and no other chemical names or abbreviations, may be substituted for "methyl chloroform" in the required warning statement.

Second, EPA proposes that in the case of a single container of, or product containing or manufactured with, more than one controlled substance, a separate label for each ozone-depleting substance not be required. Instead, the warning label may include the names of all of the substances relevant to the container or product in a single warning statement, provided that the combined statement accurately reflects and clearly distinguishes which substances the container or product contains and which were used in the manufacturing process. For example, a product which contains both CFC–12 and CFC–113 would be permitted to bear one combined label stating: "Warning: Contains CFCs-12 and -113, substances which harm public health * * *" Similarly, a single product which both contains and is manufactured with ozone-depleting substances could bear one label that combines the required warning statements. For example, the label on a refrigerator which uses CFC–12 as a refrigerant, CFC–11 in its closed cell insulating foam and has a coating applied with methyl chloroform as a solvent could state: "Warning: Contains CFC–12 and CFC–11, and manufactured with methyl chloroform, substances which harm public health * * *"

In addition, if a manufacturer uses two or more controlled substances interchangeably in a product, such as using either CFC–113 or methyl chloroform to clean a metal part, the product's label could incorporate the phrase "Manufactured with CFC–113 and/or methyl chloroform * * *" into its statement. However, EPA proposes that under no circumstances could a product's label state "May have been manufactured with" or any other such statement which makes the presence or use of a controlled substance uncertain. Moreover, a manufacturer may not present two or more controlled substances as having been used interchangeably when, in fact, they have not.

The purpose of this proposed clarification is to prevent cluttering of a product's display areas with warnings that may be duplicative, and to facilitate industry's compliance with the labeling requirement. The Agency does not propose to mandate that companies combine the warnings required by Section 611 as demonstrated above. Companies that are currently switching out of ozone-depleting substances might wish to keep their warning statements separate in order to facilitate the labeling of their new products which may have either fewer ozone-depleting substances or none at all. The combining of required warning statements described in this part is proposed as an approach for companies to utilize where they find it useful.

EPA today proposes that, except as specified in this subpart under the authority of Section 301(a)(1), the text of the required label may not in any way be shortened, altered or abbreviated. As stated above, Section 611 is very specific about the text of the required labels. A container or product whose label contained any changes to the required text, apart from those discussed above, would be considered by EPA to be mislabeled and out of compliance.

2. Placement and Form of Warning Label

Section 611 requires that products and containers bear a warning label that is "clearly legible and conspicuous." The Agency interprets the intent of this requirement is to ensure that the label is noticed by consumers at the time of their decision to purchase, in order to enable them to make informed choices about products. However, the Agency requests comment on whether the intent of the statute would be satisfied if the Agency simply required that the label be noticeable or readily available to the consumer at the time of the purchase decision. EPA today proposes regulations that would require the warning label to appear with such prominence and conspicuousness as to render it likely to be read and understood by consumers under normal conditions of purchase.

EPA's primary reason for proposing to require that the warning "appear with such prominence and conspicuousness as to render it likely to be read and understood by consumers under normal conditions of purchase" is that the warning statement required by Section 611 is only relevant to the consumer before the product is purchased. The long-lived nature of these substances virtually ensures that whatever substances are manufactured will eventually be released to the atmosphere, where they will contribute the chlorine and bromine which destroys the ozone layer. Only by expressing their preference at the point of purchase for products that do not use ozone-depleting substances can the consumer make use of the information required by section 611.

The Agency believes that there may be several placement options with which manufacturers could fulfill the statutory labeling requirement of "clearly legible and conspicuous." EPA recognizes that some options will have higher opportunity costs for certain products or manufacturers (*e.g.*, utilizing prime space on a product's principal display panel) relative to other options. Alternatively, options with lower opportunity costs (*e.g.*, placing the label on a less prominent display panel) may run the risk of not fulfilling the statutory requirement for being "clearly legible and conspicuous." Proposed placement options are discussed in the subparts below.

Today's proposal builds on the labeling experience of EPA (in particular, the Agency's Pesticide Programs) and other federal agencies (most notably the Food and Drug Administration (FDA) and the Consumer Product Safety Commission (CPSC)), and endeavors to coordinate efforts with these programs in order to prevent any obscuring or interference with other labeling requirements.

a. *Display panel placement.* EPA proposes to require that the warning label be placed on any display panel of a product or container where the label will be "clearly legible and conspicuous." Producers and manufacturers have the responsibility to ensure placement such that the proposed requirements are satisfied. EPA believes that label placement on the principal display panel (PDP), where it exists, will clearly satisfy the requirement. Location on other label space or parts of the container, however, might also satisfy the "clearly legible and conspicuous" criteria in some cases. In the 1970s, CPSC and FDA developed label area and type size requirements for the "principal display panel" of products regulated by the Federal Hazardous Substances Act and of cosmetics and over-the-counter drugs. The principal display panel (PDP), as opposed to other display panels, is considered to be the part of a product or container that is "most likely to be displayed, presented, shown, or examined under customary conditions of retail sale" (49 FR 50374). The labeling mechanism used by CPSC and FDA requires the placement of the warning on the PDP and specifies type sizes for the warning over a range of products.

According to CPSC, these requirements for placement and type

size were intended to ensure that the warning would be adequately "conspicuous and legible" to consumers at the time of purchase (49 FR 50374). By allowing the warning to appear anywhere on the PDP, the CPSC mechanism also allows manufacturers a degree of flexibility in fulfilling the labeling requirement and coordinating with other labeling requirements. EPA believes that the placement of the label on the PDP would fulfill the statutory requirement for "conspicuous and legible" labeling under § 611.

CPSC did not utilize the PDP mechanism when promulgating regulations in 1977 for the labeling of aerosol products containing CFCs. Instead, this program set the general placement requirement that all labels "shall be sufficiently prominent and conspicuous as to be likely to be read and understood by ordinary individuals under normal conditions of purchase" (16 CFR Ch.11 Part 1401) and the exact location was left to the discretion of the manufacturer. As a result, some manufacturers responded to this general requirement by placing the CPSC warning on the side or back panels of their aerosol products.

EPA believes that placing the warning on a display panel other than the principal display panel may not be the best option to meet the goals of § 611. To the extent that the scientific and international communities have come to agreement on the seriousness and urgency of the stratospheric ozone depletion problem, the Agency believes that the information provided by the label is even more relevant to consumer purchase decisions than it may have been at the time of the 1977 regulations. In addition, EPA believes that the extent to which claims such as "ozone-friendly" already appear on the PDPs of the many products indicates that manufacturers and consumers generally consider such information to be relevant enough to warrant placement on the principal display panel, where it is most likely to be noted. (See part IV below.)

However, other regulations, such as those implementing the Comprehensive Smokeless Tobacco Health Education Act of 1986 (16 CFR ch. 1 part 307), set specific placement standards to fulfill the requirement that the warning label, which reads "warning: this product may cause mouth cancer, "must be in a conspicuous and prominent place" that were not solely limited to the principal or front panel. Section 307.6(a) of that regulation defines a conspicuous and prominent place as "a part of a label that is likely to be displayed, presented, shown or examined," specifies what places would be considered to be conspicuous and prominent for each type container ("Cylindrical can—Side of the package; Pouch—Front of the package * * *; Rectangular box * * *—Any side of the package"), and sensibly concludes that "the warning statement shall not be deemed to be in a conspicuous and legible place if it appears on the bottom."

EPA today proposes that the warning label required by section 611 may be placed anywhere on any display panel that fulfills the requirements specified in today's notice, as long as it does not interfere with, mar, or detract from any other legally required labeling statements on the product or container and as long as no other labels interfere with, mar, or detract from it. (See subpart III.A.2.d. below.) In order to be clearly legible and conspicuous to a potential purchaser, the warning label would be required to be placed on any outer packaging or wrapper used in the retail display of the product, unless it were visible through such packaging or alternative placement were used. (See subpart III.A.2.c. below.)

EPA requests comment on the potential costs and benefits of requiring labeling on the principal display panel, as opposed to those that would be incurred by allowing it to appear on other display panels. Potential costs or disadvantages might include the opportunity cost of utilizing prominent label space, which will not then be available for other manufacturer information and the potential discriminatory nature of a PDP labeling requirement, when some products have a PDP and others do not. The Agency also requests comment on the lack of statutory direction on label location and whether this might suggest that a PDP requirement would be inappropriate. EPA also requests comment on whether it should explicitly require that the warning specified by section 611 appear on a product's principal display panel, if feasible.

Some products containing or manufactured with ozone-depleting substances (nuts and bolts, for example) may not have display panels that can be labeled. Guidelines for alternative label placement on products without display panels are presented below in subpart III.A.3.

b. *Type-size requirements.* EPA believes that the type size of the warning label on a specific product should be flexible to match the size of the product or container. The area of the display panel can be used to determine the appropriate type size of the warning label based upon the shape of the product or container. For example, in the case of a rectangular package where one entire side is the display panel, the area would be the product of the height times the width of that side. In the case of a cylindrical or nearly cylindrical container or product, the area of the display panel would be calculated, following CPSC's requirements under the Federal Hazardous Substances Act (16 CFR 1500.121), as 40 percent of the surface area of the product (the height of the product or container times its circumference). In the case of any other shape of container or product, the area of the display panel would be 40 percent of the total surface, excluding those areas such as flanges at tops and bottoms, shoulders, handles or necks. However, if an irregularly shaped product or container presents an obvious display panel (such as an oval or hourglass shaped area on the side of a container) the area to be measured would be the entire area of the obvious display panel. In any case, the area of the display panel for the purpose of determining the type size would not be limited to the portion of the surface already covered with labels; rather it would include the entire surface excluding any flanges, shoulders, handles or necks.

The phrase "type size" refers to the height of the actual printed image of each letter as it appears on the label. The ratio of the height of the letter to its width should be such that the height of the letter is no more than three times its width. EPA today proposes that, because a larger type size can materially enhance the legibility of the statement and is desirable, the size of the warning label should be reasonably related to the type size of any other printing appearing in the same panel, but in any case the type size must meet the minimum size requirement in table 1.

Table 1 specifies two type sizes: One for the signal word ("Warning") and one for the rest of the label statement. EPA proposes that, following CPSC's labeling requirements under the Federal Hazardous Substances Act (16 CFR 1500.121), the signal word "Warning" should appear larger than the rest of the label statement as specified above and in all capital letters.

TABLE 1

| Area of panel (sq. in.) | 0–2 | >2–5 | >5–10 | >10–15 | >15–30 | >30 |
|---|---|---|---|---|---|---|
| Type size (in.):* | | | | | | |
| Signal word | 3/64 | 1/16 | 3/32 | 7/64 | 1/8 | 5/32 |
| Statement | 3/64 | 3/64 | 1/16 | 3/32 | 3/32 | 7/64 |

>Means greater than.
*Minimum height of printed image of letters.

EPA believes that, in many situations, a product whose display panel has an area of two square inches or less would be too small to bear a "clearly legible and conspicuous" warning label and strongly encourages manufacturers of such products to follow the "alternative placement" labeling guidelines described in subpart III.A.3. below. EPA proposes that, in any case, the warning label must be clearly legible and conspicuous under customary conditions of retail sale.

The area of the display panel and type size requirements are specified above in Table 1 using English units (inches), following the regulations developed by CPSC (16 CFR 1500.121). EPA could instead specify size requirements using metric units (centimeters and millimeters) or type units (points). Dealing with small fractions of an inch may be difficult for some manufacturers. In addition, metric units are the international standard and the labeling requirement applies to containers and products imported into the United States. EPA requests comment specifically on the use of English measurement units to specify area and type size requirements and generally on the placement and type size requirements proposed in this subpart.

c. *Other general placement and form requirements.* EPA proposes three other general requirements for the placement and form of warning labels under section 611. Each of these general requirements is drawn from the labeling regulations developed by CPSC (16 CFR 1500.121), and together they are intended to ensure that the warning statement is "clearly conspicuous and legible" as specified by section 611.

First, EPA proposes that the required warning label must appear in lines that are generally parallel to any base on which the product or container rests as it is designed to be displayed for sale. EPA believes that a label that is not generally parallel to the base of the product would be unnecessarily difficult for a consumer to read.

Second, while no specific color or color combination is required for the label, EPA proposes that the warning statement must be in sharp contrast to any background upon which it appears. Consistent with CPSC's regulations, examples of combinations of colors which may not satisfy the proposed requirement for sharp contrast are: Black letters on a dark blue or dark green background, dark red letters on a light red background, light red letters on a reflective silver background, and white letters on a light gray or tan background. EPA believes that a warning statement that is not in sharp contrast to its background would also be unnecessarily difficult for a consumer to read.

Third, EPA proposes that the warning statement on the product or container appear on any outer packaging or wrapping used in the retail display of the product or container, in the same manner as required for the immediate product or container. Clearly, a warning statement that is not clearly legible and conspicuous through any outer package would fail to fulfill the statutory requirement that the label be legible and conspicuous.

However, a warning statement on the immediate product or container that is clearly legible and conspicuous through any outer packaging or wrapping used in retail display need not also appear on the outer container or wrapping itself.

The label would not need to appear in more than one place on the product and would only need to be presented to the consumer once at the time of the purchase decision.

EPA requests comment on its proposed general placement and form requirements, as well as on the specific location, positioning and size of the label.

d. *Interference with other label information.* The Agency recognizes the importance of preventing any interference with existing label information on the display panel of the product or container. This other label information might include warnings required by EPA under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), the Department of Transportation's hazardous materials transport labeling, CPSC's requirements under the Federal Hazardous Substances Act, the Federal Trade Commission's regulations regarding the energy efficiency of appliances, or FDA's over-the-counter drug labels. In addition, there may be state or local labeling requirements that apply to containers of or products containing or manufactured with ozone-depleting substances. EPA believes that the labeling required by section 611 is important as well and, therefore, no other labels should interfere with it.

EPA recognizes that some product labels may be required to bear multiple warnings regarding their purchase, use, storage or disposal. By permitting the required warning statement to appear anywhere on the product's appropriate display panel, the proposed placement mechanism is intended to provide manufacturers with the flexibility needed to ensure that other labeling information is not crowded. Based upon its work with the Federal Trade Commission on the Interagency Labeling Task Force, EPA believes that on many products the display panels currently contain labeling statements that are not necessarily required by any federal or state regulations. Included in these are statements such as "environmentally-friendly" and "ozone-safe."

EPA believes that most products' "principal display panels" (PDPs) are generally large enough to accommodate all the label information required to be placed thereon with clarity and conspicuousness and without obscuring or crowding designs or vignettes. EPA also believes that the warning required by section 611 will not distract consumers from noticing other warnings on the PDP, such as those required by CPSC under the Federal Hazardous Substances Act. However, EPA proposes to explicitly require that the warning label under section 611 not interfere with, mar or detract from the statements, designs or vignettes of any other labels required by federal or state law, and that the required warning label shall not be interfered with, marred or detracted from by any other labeling information. EPA requests comment on its proposal that the warning required by section 611 not interfere with, and not be interfered with by, any other required warning statements.

3. Products Without Display Panels

EPA recognizes that placing the warning label on a display panel may not be feasible for some of the products affected by section 611. A product, for example, may be extremely small or irregularly shaped such that placement on a display panel is not feasible. Alternatively, the product may be normally purchased without actually being viewed by the consumer. Products that might fit this second situation include home insulation containing CFCs, chillers containing CFCs, or total flooding fire extinguisher systems containing halons. Other products, as well, due to their nature of use or purchase conditions, may not have an obvious display panel as described in subpart III.A.2.a. above.

EPA believes that the intent of the labeling requirement under section 611 is to ensure that information is made available to the consumer at the time of purchase decision. Since all products manufactured with or containing ozone-depleting substances are required by section 611 to bear a warning label regardless of whether they have an obvious display panel, EPA has developed alternative placement guidelines apart from the display panel mechanism for conveying the required labeling information to the potential purchaser at the time a purchase decision is made.

In cases where a product has any display panel which is normally viewed by the purchaser at the time of the purchase decision, EPA proposes to require that the warning label appear on a display panel, or on any outer packaging or wrapping used in the retail display of the product. In cases where a product does not have a display panel, or in cases where the consumer is likely to make a purchase decision without seeing the actual product, EPA proposes to require that the labeling information must be made available to the consumer through another means in order to facilitate an informed purchase decision.

In this subpart, EPA gives examples of products that may not have a clear PDP and proposes a clarification of the labeling requirements for these products.

a. *Examples of products without display panels.* Labeling on the display panel might not be feasible for products that are extremely small or irregularly shaped. In addition, some products may not have any immediate surface or outer packaging that lends itself easily to labeling. Examples of this type of product might include certain foam products, nuts and bolts, and small electronic or aerosol products.

A second type of product that does not have a display panel is a "room-sized system" that is generally purchased without actually being seen under normal purchasing conditions, such as home insulation, central air-conditioning, fire extinguisher systems, process refrigeration, cold storage systems, and very large items such as airplanes or commercial trucks. Noncommercial cars and trucks, on the other hand, are often viewed by a purchaser under normal retail purchasing conditions, and usually have a label in the form of a "sticker" with the included options, price of the vehicle, and estimated fuel efficiency. Other products such as portable fire extinguishers are also likely to be viewed by a purchaser under normal purchasing conditions. As such, these products would be considered by EPA to have display panels and would be required to follow the specifications in subpart III.A.2.a. above.

Another type of product that may be purchased without actually being viewed is a component that is incorporated into a larger product which is then intended for sale. For example, a computer manufacturer may purchase electronic circuit boards from a separate supplier, or a car manufacturer may purchase nuts and bolts, that are then incorporated into their products for sale to their ultimate consumers. For this type of product as well, the purchase decision by the ultimate consumer may be made without the product actually being seen.

b. *Options for labeling.* EPA has proposed that the display panel mechanism specified in subpart III.A.2.a. be used wherever possible. For those cases where it is not possible to use a display panel, as described above, EPA proposes that guidelines for determining other reasonable means to communicate the labeling information to the purchaser at the time of the purchase decision must be employed. EPA wants to reiterate that the responsibility to place the label in a legible and conspicuous place lies with the manufacturer.

Where a product is unable to follow the display panel mechanism because, although it is normally viewed by the purchaser at the time of the purchase decision, it is extremely small or irregularly shaped such that placement on the principal display panel is not feasible or it has neither a surface that lends itself easily to labeling nor any outer packaging used in retail display, EPA proposes that the warning label may appear on a hang tag, tape, card, sticker, or similar overlabeling that is securely attached to the container or product.

Another acceptable alternative labeling mechanism for small or irregularly shaped products is to place the warning on the display case or packaging in which the product is sold. A bin of nuts and bolts in a hardware store, using this alternative, would be required to bear the warning label. In this scenario, the nuts and bolts might arrive at the retailer in bulk with an accompanying informational flyer, invoice or bill of lading carrying the necessary labeling information. When displayed by the retailer in the store, a sign must be affixed to the container holding the products that would communicate the required labeling information to the potential purchaser. In any case, EPA proposes that the warning label must be clearly legible and conspicuous under customary conditions of retail sale.

Products that cannot follow the display panel mechanism because they are not normally viewed at the point of purchase decision would be required by EPA to include the warning label with supplemental printed materials for display or distribution prepared by the manufacturer concerning the product. The phrase "supplemental printed materials" is considered by EPA to mean any written, printed or graphic informational or promotional material concerning a product that is prepared by the manufacturer itself, including brochures, written advertisements, circulars, package inserts, desk references, fact sheets, material safety data sheets, and procurement or specification sheets.

The proposed requirement would not include catalogs or any other material prepared by any person other than the manufacturer, such as a distributor or retailer. However, a distributor or retailer would be required to pass on to the consumer prior to purchase any supplemental printed material including the required warning statement that is provided to the distributor by the manufacturer.

Many Federal labeling regulations require informational or promotional materials to include the required labeling, including CPSC's labels under the Federal Hazardous Substances Act, FTC's appliance energy-use labels and home insulation fact sheets, FDA's over-the-counter drug labels and EPA's pesticide labels under FIFRA. For home insulation and other products whose informational or promotional printed materials are currently regulated, EPA proposes that the labeling information be incorporated into existing materials and fact sheets to the best extent possible without marring, interfering or

detracting from the other existing labeling requirements.

For components purchased on specification by a manufacturer, the contract with the supplier could be used as specified below in section III.A.4.b. to establish whether ozone-depleting substances are to be used, and if so, which ones. Following the contractual specification, shipments of the components would arrive at the manufacturer's plant or warehouse and the invoice, bill of lading, or other supplemental printed materials accompanying the component would contain any labeling information required under section 611. When the manufacturer then introduced the final product incorporating the component into interstate commerce, it would be required to include the warning on the product's display panel.

Under this option, the information about the component products would be available to the purchaser (in this case, a manufacturer) at the point of purchase decision (developing specifications for a contract). If the contract specified the use of an ozone-depleting substance, the invoice of the component product would bear the relevant labeling information, which would be passed along to the ultimate consumer of the manufacturer's final product. (See discussion on stream of commerce in subpart III.A.4. below.)

EPA believes that as proposed above, including the warning with the supplemental printed materials (*e.g.*, contracts, marketing brochures, material safety data sheets, *etc.*) of products which lack the normally visible display panels would be a reasonable means of providing consumers with the labeling information at the point of purchase decision and would be of minimal burden to manufacturers. EPA requests comment on its proposed labeling requirement for supplemental printed materials.

Due to the nature of their use and purchasing conditions, prescription drugs such as metered dose inhalers (MDIs) could also merit some alternative labeling option. MDIs are small aerosol devices which may contain CFCs that are used to deliver medicine directly to the lungs of patients with asthma or other pulmonary diseases. MDIs were exempted from the labeling required by FDA for aerosols containing CFCs.

Section 611 requires labeling of all containers of and products containing class I substances and includes no provisions for waivers. Further, section 611 does not make any distinction regarding medical products, while other sections of title VI explicitly provide for exemptions from regulation for such products. Therefore, EPA is not proposing an exemption for prescription drugs in this notice. However, EPA specifically requests comment on the need for special labeling options for prescription medical products.

EPA generally requests comment on the prevalence of products without display panels and the extent to which the alternative labeling options proposed in this subpart are feasible for these products and fulfill the requirements of section 611.

4. Stream of Commerce

Section 611 states that no affected product or container shall be "introduced into interstate commerce" unless it bears a specified warning label. EPA today proposes that the labeling requirement begins at the point of introduction into interstate commerce and flows through the entire stream of commerce up to and including the point of sale to the ultimate consumer.

a. *Requirements.* The two entry points into interstate commerce generally recognized by EPA are the warehouse from which a domestic manufacturer releases the product or container for shipment and the site of customs clearance for imported products or containers. At both of these entry points a product or container must bear the specified warning label. In addition, a product or container that is repackaged or incorporated into another product for resale or shipment will be considered to be introduced into interstate commerce as a new product. For example, the label at retail sale of a finished product such as a computer with several potentially solvent-cleaned components would have to bear the warning information of all incorporated components manufactured with a class I substance. (See subparts III.A.4.b. and III.C.2.b. below for a more in-depth discussion of solvent-cleaned products and other products manufactured with class I substances.)

EPA believes that the labeling information accompanying a product when it is introduced into interstate commerce must be passed through the stream of commerce to the point of sale to the ultimate consumer in order for the labeling requirement in section 611 to be meaningful. As stated above, the phrase "ultimate consumer" in today's notice refers to the first purchaser for commercial or personal use of a container or product that is not intended for re-introduction into interstate commerce. An example of a purchaser that is not the ultimate consumer of a product would be a manufacturer that purchases components from another manufacturer and incorporates them into a larger product. EPA believes that all consumers should benefit from the labeling information required by section 611 and that for the labeling requirement to be meaningful it is especially important that the labeling information be passed on through the stream of commerce to the ultimate consumer and thus facilitate the making of an informed purchase decision.

If, on the other hand, the manufacturer of a final product that contained a component manufactured with a process that used a class I substance were not obliged to pass on the component's labeling information with the final product, the ultimate consumer of the product would have no way of knowing that a component within the product was manufactured with a class I substance and could not make an informed choice about that product, nor would there be any incentive for the manufacturer to switch to a component that was not manufactured with an ozone-depleting substance. Thus, EPA believes that the labeling information must be carried through to the ultimate purchaser in order to fulfill the intent of section 611. EPA today proposes that the labeling information from any class I product that is repackaged or incorporated into another product must be carried through to the ultimate consumer and that the defacing or removal of a label by anyone other than ultimate consumer would be considered a violation of the regulations implementing section 611. EPA requests comment on its interpretation of the phrase "introduced into interstate commerce."

EPA is aware of the possible concerns of industry regarding the burden of determining if incorporated components were made with a class I substance and therefore their final products would be required to bear a warning label. Some complex finished products, such as computers, refrigerators and cars, can incorporate hundreds of different components that may or may not contain or have been manufactured with a class I substance. A benefit of the requirement to pass the labeling through the stream of commerce is that the manufacturer would be able to rely on the labeling information from its suppliers that it receives with the component, as long as the manufacturer reasonably believes that the information is correct. The manufacturer would then be required to pass on any labeling information that it received when it re-introduces the product into the stream of commerce. There would be no need for the manufacturer to independently investigate whether a component from a supplier, for example, was or was not

manufactured with a class I substance, as long as the manufacturer reasonably believed that the supplier was reliably and accurately labeling any components manufactured with a class I substance. However, a manufacturer would not be able to rely on the reasonable belief defense when EPA can show that the manufacturers had actual knowledge or took affirmative steps to be shielded from the relevant information. EPA requests comment on the impacts of passing the required labeling information through the stream of commerce to the ultimate consumer and on EPA's definition of stream of commerce.

b. *Solvent-cleaned products.* EPA believes that labeling can pose a particular challenge for solvent-cleaned products. In this subpart, EPA discusses the impact of the labeling requirement through the stream of commerce on products solvent-cleaned with class I substances and proposes options for industry to minimize the burden of the requirement.

Many final products, especially electronics, incorporate one or more (and often several) different components that may have been cleaned with a class I solvent (CFC–113 or methyl chloroform). These components can be manufactured in-house, but are often purchased either from domestic suppliers or importers. As a result, a single consumer product such as a computer may incorporate hundreds of components from potentially different sources that may or may not have been cleaned or otherwise manufactured with a class I substance. As discussed above, if any components are manufactured with class I substances then the final consumer product would be required to pass the labeling information from those incorporated components through to the ultimate purchaser of the product.

Due to the nature of the cleaning process, determining whether a given product has or has not been cleaned with a class I solvent can be difficult. The "pass-through" labeling requirement proposed above in subpart III.A.4.a. is intended to relieve manufacturers of the need to independently perform such an investigation. Provided that the manufacturer reasonably believes that the supplier is reliably and accurately following the labeling requirement (products introduced into interstate commerce, including imported products, that contain or have been manufactured with a class I substance must bear the warning label), the manufacturer can rely on the labeling information that it receives from its suppliers with the components and is only required to pass on the labeling information when it re-introduces the product into the stream of commerce. Thus, the manufacturers of final products incorporating components that have been manufactured with a class I substance need only pass the labeling information received with the components through the stream of commerce to the ultimate consumer.

An alternative response to the labeling requirement by solvent users could be to place the "Warning: Manufactured with * * * *" label on all products incorporating components that may have been manufactured with one class I substance. In this way, if any components within a given product might have been cleaned with that class I substance, the labeling requirement has been fulfilled. Because the information passed on to the consumer may not be fully accurate, EPA does not recommend this response as a labeling option. However, EPA recognizes that this option may be efficient for a manufacturer whose product utilizes several components that may have been manufactured with a given class I substance, and where the manufacturer is fairly confident that at least one component was actually manufactured with that class I substance.

The manufacturer in this example could avoid any potential administrative costs of separately tracking components by placing the warning label on every product incorporating components that may have been manufactured with a class I substance. However, the text of the warning label may not in any situation state that the product "may have been manufactured with"; the label must include the required text of "Warning: Manufactured with * * *" in order to fulfill the requirement. The clear disadvantage of this option is that consumers could wrongfully perceive the product and its manufacturer as posing a threat to the ozone layer in those cases where it had not actually been manufactured with a class I substance.

EPA believes that existing systems that track pertinent information of components through their manufacturing processes can in many cases be modified in a way that utilizes the passthrough requirement to ensure that final products are correctly labeled. However, EPA below outlines additional options to reduce the burden for those companies that may have difficulty tracking all of the components in their products that may have been manufactured with a class I substance.

Instead of tracking products, manufacturers could use contract specifications (*i.e,* to state in their contract that supplied components were not to be manufactured with any class I substance) in order to ensure that their final product does not need to bear the warning label. (See discussion in subpart III.A.3. above regarding the labeling of components and other products without display panels.) As long as the manufacturer reasonably believes that the terms of the contract were complied with, the manufacturer may rely on contract specifications to ensure that purchased components do not contain nor were manufactured with a class I ozone-depleting substance and, therefore, the manufacturer's final product would not require a warning label.

Utilizing this option, the manufacturer would avoid both the costs of tracking components and of labeling by ensuring that the incorporated components are not manufactured with a class I substance. In addition, the contracts would provide a straightforward method of monitoring compliance. However, the responsibility to carry through the labeling requirement remains. If, for example, the contract is breached because a class I substance is used to clean the components, the component manufacturer must label the component accordingly and the final product manufacturer must pass along the label information.

EPA strongly urges manufacturers who can do so to find and use alternatives to class I substances for their products to avoid labeling under section 611. In fact, EPA anticipates that the use of class I substances in the manufacturing process of many products will cease in the near future, particularly in the area of solvent use. The scarcity of class I substances created by the phaseout, and the increasing costs added by the federal excise tax, are already providing a continuing incentive for manufacturers to use alternatives wherever possible.

The final option available to companies whose products are manufactured with a class I substance is to submit a petition to EPA to exempt their product from the labeling requirement. Section 611(d)(2) provides that products manufactured with a class I substance may not be required to bear the warning if they do not have currently or potentially available substitute products or manufacturing processes that reduce the overall risk to human health and the environment. (See subpart III.C. below for a discussion of the petition process.) EPA proposes to review petitions to exempt products manufactured with a class I substance in conformity with the provisions of

section 611 and proposed requirements specified in today's notice. However, until any such petition is approved in a final form after notice and comment, the product will be required to bear the specified warning label.

5. Symbol

EPA is considering, but is not proposing at this time, requirement of a symbol to accompany the warning text. Comment is being requested on the appropriateness of a symbol requirement and on several related issues, including the marginal benefits of the symbol in terms of reduced ozone depletion. EPA does believe that there may be benefits to the symbol and is interested in public comment.

Studies by the Federal Trade Commission and other experts strongly suggest that a symbol (*e.g.*, a pictogram or shape) accompanying a warning statement can greatly increase recognition and comprehension of signs and labels beyond that of the statement alone. Studies concerning the effectiveness of symbols reviewed by the Department of Commerce in The Development of Effective Symbol Signs (1982) indicate that, because their message can easily be taken in at a glance, symbol signs are more likely to draw attention and communicate information than word-only signs. Other studies have shown that graphic formats on consumer product labels can greatly increase the quality of purchase decisions. (See reference Rudd.) EPA believes that a symbol accompanying the warning statement required by section 611, in conjunction with a public outreach program, could aid consumers in noticing, understanding, and remembering the warning label and in making an informed decision at the point of purchase.

EPA believes that the primary purpose of the labeling requirement under section 611 is to promote a more informed purchase decision by consumers regarding products using ozone-depleting substances. To the extent that a symbol makes the label more noticeable and understandable, it would aid consumers in making this decision. EPA believes that a symbol which increases consumer understanding and recognition of the warning statement could further facilitate the expression of consumers' potential preference for products that do not use any ozone depleting substances.

A 1981 FTC report on the impact of cigarette warnings on consumers plainly states that "pictures are better remembered than words" and suggests that a change in the basic shape of the warning "would substantially improve its effectiveness." Hundreds of studies concerning symbol effectiveness reviewed in the 1982 Department of Commerce report arrived at the same conclusions (see reference). In general, the studies suggested that symbols create a direct and immediate impact on the consumer and thus can be recognized significantly more rapidly and more accurately than signs and labels using only words, particularly under short or difficult viewing conditions.

An important consideration in proposing a pictogram or shape as part of the warning labels required by section 611 is cost. EPA believes that any significant additional costs to the manufacturer in adding a symbol to the required label would have to be weighed against the benefits of the symbol in terms of consumer comprehension and, ultimately, greater protection of stratospheric ozone.

In their 1981 report on cigarette warning labels, FTC staff concluded that the only potential cost to the manufacturer of changing the graphics of the label would be "the increased advertising space occupied by a warning." The research done by EPA for the economic analysis accompanying this proposed rulemaking indicated that the costs of printing labels depends significantly more on the number of colors in the label than on the complexity of the design. The 1982 Commerce report makes several recommendations for the development of an effective symbol. The pictogram presented below as a symbol to accompany the warning statement required by section 611 is intended to fulfill the recommendations made by Commerce for developing effective symbols. EPA has developed an octagon or "stop-sign" shape that could accompany the required warning statement.

**Contains Chlorofluorocarbon-11, A substance which harms public health and environment by destroying ozone in the upper atmosphere**

EPA believes that this symbol would substantially increase consumer understanding and recognition of the required warning and thus heighten the effectiveness of the label. According to the FTC, the half black and half white octagon shape is one of the two symbols most likely to be noticed and understood by consumers. EPA also believes that the proposed symbol meets the recommendations made by Commerce report for the development of an effective symbol, including a minimum of fine lettering detail within the shape. As a result, EPA believes that the cost to printers and labelers would be minimal, since a change in the

substances named in the text part of the label would not affect the pictogram.

EPA recognizes that section 611 was very specific about the text of the warning label and that a symbol was not mentioned in the statute, but believes that authority for requiring such a symbol may be found under sections 611 and 301(a) because it assists in the fulfillment of the statutory mandate that the warning label be "clearly legible and conspicuous." EPA requests comment on this issue as well as on the potential benefits of the symbol. Given that the economic analysis has found negligible quantitative benefits for the warning label itself, it could be argued that the additional requirement might have no quantifiable benefit, while potentially creating additional costs. On the other hand, the Agency does anticipate significant qualitative benefits from the warning label, that would be increased by the symbol. EPA requests comment on any additional administrative and printing costs that could be incurred if the symbol were required, as well as on whether there would be quantifiable opportunity costs associated with the additional space occupied by the symbol on the label and whether these are justified in light of the qualitative benefits of the warning label. EPA also requests comment on the extent to which a symbol would increase the effectiveness of the warning statement and the appropriateness of requiring this or any symbol to accompany the mandatory warning statement.

*B. Recoverable Substances Label*

EPA also today proposes to require a permanent label on all products containing a class I or class II substance that can be recovered or recycled, pursuant to Section 608 of the Clean Air Act, as amended. The intent of this proposed labeling requirement is to clarify for servicers and recyclers in a consistent manner what ozone-depleting substance is contained in the product, and to assist them in the recovery or recycling of the substance through proper information.

1. Authority Under Section 608

Section 608(a)(3) requires EPA to promulgate regulations that "(A) reduce use and emission of (ozone-depleting) substances to the lowest achievable level and (B) maximize the recapture and recycling of such substances." EPA will propose regulations to implement the emissions reduction and recycling requirements of Section 608. However, EPA also believes that permanently labeling products containing recoverable class I and class II ozone-depleting substances would be an effective way to inform servicers and disposers. As a result, proposed requirements for a consistent recoverable substances label have been included in today's notice.

Nearly all products containing recoverable class I and class II substances, including home refrigerators, portable fire extinguishers and car air-conditioners, already have such a permanent label indicating which controlled substance is used. EPA proposes that, to the extent that they provide the information specified in this subpart, these existing labels may be considered to fulfill the recoverable substances labeling requirement.

2. Benefits of Recovery and Recycling

Recovery and recycling of class I and class II substances can yield significant benefits, including both economic and environmental benefits. Formal cost and benefit analyses have been prepared for the proposed rulemakings to implement the recovery and recycling requirements of Sections 608 (emissions reduction) and 609 (mobile air-conditioners). This subpart qualitatively discusses the potential benefits of recycling class I and class II substances. Subpart III.B.3. below discusses the additional benefits of a recoverable substances label. Further discussion on the costs and benefits of the recoverable substances label can be found in the economic analysis accompanying this proposed rulemaking.

Quantifiable economic benefits can result from recovery and recycling when they enable owners of equipment using class I or class II substances to continue using that equipment during and after the decreasing production of the substances under the phaseout would have otherwise forced them to prematurely retire or retrofit their equipment.

Recovery and recycling can also have environmental benefits when they meet the demand for class I or class II substances that would have otherwise been met through additional production of virgin substances. To the extent that they can take the place of virgin ozone-depleting substances, recovered and recycled chemicals can reduce overall production, and therefore ultimately emissions, of harmful ozone-depleting substances. Recovery and recycling can have an additional environmental benefit if destruction technology becomes more widely used in the future.

3. Additional Costs and Benefits of Labeling Products Containing Recoverable Substances

Due to the importance of knowing what recoverable substance is contained within a product in order to properly recover or recycle, EPA believes that a permanent label clearly stating this information would facilitate effective recycling at service and disposal. As mentioned above, nearly all products containing recoverable substances already bear a permanent label that provides some or all of the information EPA proposes to require. EPA believes that the costs of slightly altering the text of an existing label on future equipment so that it would be consistent with today's proposed requirements would be minimal. (See economic analysis accompanying this proposed regulation.)

EPA believes that there could be significant benefits from the recoverable substances labeling requirement. By clearly stating which substance is contained within a product, the recoverable substances label could facilitate proper handling of the products. Improperly mixing recovered and recycled substances would ruin the class I or class II substance, thus possibly requiring additional virgin production, or if unknowingly reused it could damage products and invalidate warranties. The recoverable substances label would ensure that servicers and disposers are certain which substance is contained within the product and thus prevent potential confusion that might occur as products switch out of ozone-depleting substances to substitutes.

An additional option would be to require the recoverable substances label to state: "Federal law prohibits venting and may require proper recovery or recycling by certified technicians." This more detailed recoverable substances label could also aid the Agency in its compliance and enforcement efforts by providing a clear reminder to the service person that EPA's regulations prohibit venting and require proper recovery or recycling of class I and class II substances. A person who might be unaware of EPA's regulations would be informed by the recoverable substances label that federal law prohibits venting. This could both prevent potential harm to the environment from the venting and reduce the efforts needed to monitor compliance by alerting potential unknowing violators of EPA's regulations. In addition, a person who intentionally vented a class I or class II substance would be hard pressed to claim that they were unaware of EPA's regulations if a permanent label on the product clearly states that federal law prohibits venting.

Under EPA's program to implement the recovery and recycling requirements of Section 608, EPA may require certification of technicians that service

and dispose of products that contain recoverable ozone-depleting substances to ensure that they are aware of the prohibition on venting and EPA's specific regulations on recovery and recycling. As such, EPA believes that it may not be necessary to include the additional text discussed in the preceding paragraph in the recoverable substances labeling requirement and is today proposing to require the simple statement identifying the substance. EPA requests comment on the potential costs and benefits of a simple recoverable substances label requirement and of the additional text regarding the prohibition on venting and EPA's specific regulations.

4. Proposed Labeling Requirements

EPA believes that a recoverable substances label would result in significant benefits at a minimal cost by providing useful information to servicers and disposers and thereby facilitating more effective recovery and recycling. As a result, EPA today proposes that all products containing a recoverable class I or class II substance bear a clearly legible, permanent label stating: "Contains [insert name of substance]."

EPA believes that controlled substances can currently be recovered and recycled from all refrigeration and fire extinguishing products. Thus, EPA proposes that the phrase "product containing recoverable substance" would at a minimum include refrigerators, freezers, dehumidifiers, water coolers, ice machines, air conditioning and heat pump units, and fire extinguishers.

This label would not be required to be conspicuous at the point of sale to the purchaser. Instead, EPA proposes that the label be permanently affixed in a place that is conspicuous to a service person or disposer, such as the back of the product or near the compressor. For example, the recoverable substances label for a home refrigerator might appear on the back plate with the UL Seal, serial number, *et cetera*.

The name of the substance inserted into the recoverable substance label, similar to the warning statement described in part III.A., should be the standard chemical name as listed in the **Federal Register** notice of January 22, 1991 (56 FR 2420). The only authorized modifications would be "CFC" for chlorofluorocarbon, "HCFC" for hydrochlorofluorocarbon, and "1,1,1-trichloroethane" for methyl chloroform. For example, a refrigerator charged with chlorofluorocarbon-12 would bear a label stating: "Contains CFC–12."

Because the recoverable substances label is not specifically intended to inform purchasers, and because the size range of the affected products is relatively narrow, EPA is not today proposing that the recoverable substances label follow the "principal display panel" mechanism for placement and type size or that any symbol accompany the recoverable substances label. Instead, EPA proposes that the recoverable substance label be placed permanently on the product so that it would be conspicuous to a service person or disposer with a minimum type size of 3/32 of an inch.

As stated above, EPA believes that nearly all products containing recoverable class I and class II substances already have a permanent label indicating which controlled substance is used and proposes that, to the extent that they provide the information specified in this subpart, these existing labels may be considered to fulfill the recoverable substances labeling requirement. EPA requests comment on the need for and utility of a permanent recoverable substances label, the extent to which this type of labeling already exists, and EPA's estimates of the potential costs of requiring such a label.

*C. Petitions*

Section 611(e) states that any person may petition the Agency after May 15, 1992 to apply the labeling requirements of the section to any product containing a class II substance or any product manufactured with a class I or class II substance that is not otherwise subject to the requirements. Section 611(e) also states that any petition of this sort must include a showing by the petitioner that there are data on the product adequate to support the petition. In this part, EPA discusses petitions to add class II products to the labeling requirement and petitions to temporarily [2] exclude products manufactured with a class I substance from the labeling requirement. For both types, EPA proposes procedural requirements for submission and evaluation of petitions and criteria for determining if data included in the petition are adequate.

Determinations regarding both types of petitions would be based primarily on the availability of substitutes that reduce the overall risk to human health and the environment. Sections 611 (c) and (d) specify that EPA should take into consideration both "currently" and "potentially" available substitutes when making such determinations. EPA generally considers "currently available" to mean that the substitute is adequately tested and widely available in commercial quantities. EPA regards "potentially available," on the other hand, as meaning that there is adequate information to make a determination that the substitute is technologically feasible, environmentally acceptable and economically viable. EPA requests comment on its interpretation of the terms "currently available" and "potentially available."

1. Types of Petitions

As stated above, EPA anticipates two possible types of petitions. Section 611(e) explicitly sets out requirements for petitions to add to the labeling requirement products containing class II substances or manufactured with class I or class II substances which are not otherwise subject to them. EPA today also proposes requirements for any petitions to temporarily remove a product manufactured with a class I substance from the labeling requirement. These proposed requirements for petitions to exempt products are, to the furthest extent practicable, parallel to the statutory requirements for petitions to add products to the labeling requirement.

a. *Add class II products to labeling requirement.* Section 611 states that the labeling requirement shall apply to products containing or manufactured with a class II substance if EPA determines that there are substitute products or manufacturing processes: (A) That do not rely on the use of such class I or class II substance, (B) that reduce the overall risk to human health and the environment, and (C) that are currently or potentially available.

EPA is not today proposing that the labeling requirements apply to any products containing or manufactured with class II substances. Instead, EPA proposes a process to implement the statutory requirements for petitions, including procedures for the submission and evaluation of petitions and criteria for determining if data on the product included by the petitioner are adequate. In response to successful petitions, and following any independent determinations made by the Agency regarding the availability of acceptable substitutes, EPA intends to subsequently apply the labeling requirement to specific products containing or manufactured with class II substances.

EPA plans to coordinate its process for petitions to add products to the labeling requirement under section 611

[2] The Agency can only temporarily exclude products manufactured with a class I substance since section 611(e)(5) states that effective January 1, 2015, the labeling requirements shall apply to all products manufactured with a process that uses a class I or class II substance regardless of any petitions or determinations made by the Agency.

with its regulations implementing section 612 (Safe Alternative Program). Section 612 requires EPA to make determinations on the availability of substitutes for class I and class II substances based on criteria identical to those specified by section 611 (see part II.E. above). EPA believes that determinations under section 612 will provide guidance for the evaluation of petitions to add class II products to the labeling requirement under section 611. Thus, in order to maintain consistency between the Labeling and Safe Alternatives programs, EPA today proposes to coordinate with the requirements of section 612 its guidelines and criteria for determining if data included by the petitioner are adequate for class II petitions under section 611.

EPA could potentially receive a petition to re-apply the labeling requirement to a product manufactured with a class I substance that it has temporarily exempted from the requirement. In this case, the petition to re-apply the labeling requirement would need to follow the same procedure that is proposed below for the petitions to temporarily exempt.

b. Temporarily Remove Products Manufactured with Class I Substances From the Labeling Requirement

Section 611 allows a temporary exemption to the labeling requirement for a product manufactured with a class I substance if EPA determines that there are no substitute products or manufacturing processes for such product that (A) do not rely on the use of such class I substance, (B) reduce the overall risk to human health and the environment, and (C) are currently or potentially available. As discussed above in subpart II.B., examples of products manufactured with a class I substance include solvent-cleaned products, open-celled foam products, products using adhesives or coatings with solvents, and certain food and tobacco products.

Products cleaned with the solvents CFC–113 and methyl chloroform represent by far the largest use-sector of products manufactured with a class I substance. According to UNEP's Electronics. Degreasing and Dry Cleaning Solvents Technical Options Report, "There is no single substitute for all uses of CFC–113." However, the report goes on to state that "every use area has one or more available alternative(s) which can be adopted." In addition, the report states that "It is technically feasible to freeze or substantially reduce the production and use of 1,1,1-trichloroethane without affecting a timely phaseout of CFC–113." (See reference, p.4.)

Based upon the findings of this report, and the Agency's own investigation of the availability of substitutes (see economic analysis accompanying this proposed rulemaking), EPA believes that it is unable to make a positive determination for any product manufactured with a class I substance that there are no substitute products or processes at least potentially available that reduce the overall risk to human health and the environment. However, EPA recognizes that the UNEP assessment and its own analysis may not adequately address special situations or unique cases where an exception might be warranted.

EPA does not today propose to make a determination regarding products manufactured with class I substances. EPA was unable to make such a determination in light of the available information and the extremely large number of products. As with petitions to add products to the labeling requirement, EPA instead proposes a process for evaluating petitions to temporarily exempt products manufactured with a class I substance on a case-by-case basis. EPA specifically requests comment and additional information on the availability of substitutes for products manufactured with class I substances. However, commenters requesting specific action by the Agency in the form of a petition should refer to the text below for procedural requirements for the submission and evaluation of petitions.

In subparts III.C.2. and 3. below, EPA proposes procedural requirements for petitions and criteria for determining if data submitted by the petitioner are adequate.

2. Procedural Requirements for Submission and Evaluation

In this subpart, EPA proposes procedural requirements for the submission and evaluation of petitions to add a product containing or manufactured with a class II substance to or temporarily exempt a product manufactured with a class I substance from the labeling requirement under section 611.

Section 611(e)(1) requires EPA to review within 180 days any petition to add a product to the labeling requirement that it receives after May 15, 1992. Parallel to this requirement, EPA proposes the same review period for petitions to temporarily exempt a product from the labeling requirement. This review will likely not include actual technical facility or laboratory testing by the Agency but instead be limited to a critical analysis of the reported test results and associated uncertainty analysis. The 180 day limit will begin once EPA receives an petition that includes data that are adequate, as defined in subpart III.C.3. below. If the petition does not include adequate data, EPA may return the petition to the applicant and request specific additional information.

If the data included in the petition are adequate but EPA determines that the criteria for exempting a product from the labeling requirement have not been met, EPA will notify the petitioner and may, in appropriate circumstances (*e.g.*, when all of the manufacturers in an industry with numerous companies are likely to request exemption for a specific product), publish an explanation of the petition denial in the **Federal Register**. Pursuant to section 611(e)(1), EPA is required to publish an explanation of such a denial of a petition to add a product to the labeling requirement.

If adequate data are included in the petition and EPA makes a tentative decision to grant the petition, EPA will notify the petitioner and publish a proposed rule to add the product to or remove the product from the labeling requirement in the **Federal Register** requesting comment. After reviewing all public comments and staff recommendations, EPA will make a final determination concerning the proposed rule within one year of receiving a petition that includes adequate data. This final determination will respond to all comments made on the proposed rule.

If EPA publishes a final rule applying the labeling requirement to a product, the effective date will, pursuant to section 611(e)(1), be one year after the final rule is published. If EPA publishes a final rule temporarily removing the labeling requirement from a product, the effective date will be the date of publication of the final rule in the **Federal Register**. However, any product that is labeled before the effective date would be required to remain labeled through the stream of commerce up to and including the point of sale to the ultimate consumer. EPA requests comment on its proposed procedural requirements for the submission and evaluation of petitions to add a product to or temporarily remove a product from the labeling requirement.

3. Adequate Data

Section 611(e)(2) states that "Any petition under this paragraph shall include a showing by the petitioner that there are data on the product adequate

to support the petition." Parallel to this requirement, EPA proposes that petitions to temporarily exempt a product from the labeling requirement must also include a showing of adequate data.

In order to be considered adequate, EPA proposes that a petition must include a showing of sufficient quality and scope of whether there are or are not substitute products or manufacturing processes that: (A) Do not rely on the use of such class I substance, (B) reduce the overall risk to human health and the environment, and (C) are currently or potentially available. These are the criteria set forth in sections 611(c) and (d) for the determination required to add a product containing or manufactured with a class II substance to or temporarily exempt a product manufactured with a class I substance from the labeling requirement under section 611.

Fulfilling the above criteria for petitions to temporarily exempt entails proving a "negative" (*i.e.*, that there are no substitutes), which is generally acknowledged to be extremely difficult to do with absolute certainty. For example, a petitioner would not only have to show that its testing and analysis of currently available substitutes was accurate, reproducible and performed in accordance with accepted quality assurance practices, but also that no other substitutes are potentially available. As a result, EPA is today proposing an extensive explanation of what data it would require in such a petition and how the data must be presented by the petitioner in order to be considered "adequate."

a. *Identification requirements.* In this subpart, EPA proposes identification requirements for petitions to add a product that contains or is manufactured with a class II substance to and petitions to temporarily exempt a product that is manufactured with a class I substance from the labeling requirement. These proposed identification requirements address who may file petitions, when petitions may be filed, where and how to file, length of time requested for exemptions, certification of accuracy, and requests for additional information. In order to facilitate review of the petitions, EPA proposes that any petition must be labeled and required sections numbered following the format specified in this subpart.

EPA proposes that in a part clearly labeled "Section I.A." the petitioner must give his or her full name, address and telephone number, fully identify the product that is the subject of the petition, and, if the petition is to temporarily exempt a product from the labeling requirement, identify who the manufacturer or manufacturers of that product are.

Section 611(e)(1) states that any person may petition the Agency regarding the application of labeling requirements to products containing a class II substance or products manufactured with a class I or class II substance. As such, EPA will review a petition of adequate data that it receives from any person. Where possible, however, the Agency strongly encourages petitioners to file "class action" petitions for all manufacturers of the same product or for all products that are similar. If petitions are specific to individual products manufactured by individual companies, for example, the number of petitions to be reviewed by EPA is likely to be much greater than if petitions are general for all manufacturers of a given product or products. Due to potential resource limitations, larger numbers of petitions would likely lengthen the time for any single petition to be reviewed.

Petitions should be sent to Labeling Program Manager, Global Change Division, Office of Atmospheric and Indoor Air Programs, U.S. Environmental Protection Agency, ANR–445, 401 M Street, SW., Washington, DC 20460. Two copies should be submitted.

As stated above, EPA can grant only a temporary exemption from the labeling requirement under section 611. Therefore, a petition to temporarily exempt a product manufactured with a class I substance must include, in a part clearly labeled "Section I.A.T.," the length of time for which he or she is requesting an exemption.

The petition must be certified by the petitioner to be true, accurate and complete. In a part clearly labeled "Section I.B.," the petitioner must include the following statement, signed by the petitioner or an authorized representative:

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information."

Section 611(e)(3) states that if the Administrator determines that the information on the product included in the petition is not sufficient to make the necessary determination, EPA will use any authority available to the Administrator under any law administered by the Administrator to acquire such information. As such, EPA may use the authority under section 114 of the Clean Air Act, for example, to request additional information from the petitioner or the manufacturer of the product that is the subject of the petition in order to render a determination on the petition. The Agency believes that it may also use such authority to request additional information in response to petitions to temporarily exempt. However, EPA's ability to acquire further information does not exempt the petitioner from the requirement to provide data adequate to support the petition.

b. *General claim requirement.* Hundreds of thousands of different products may contain a class II substance or be manufactured with a class I or class II substance. Each of these products may have different qualities which affect the availability or safe use of potential substitutes. As a result, EPA is not today proposing specific tests to be conducted or analytical methods to be used in support of a petition. Instead, EPA is proposing general claim and supporting data requirements to ensure that whatever testing and analysis is done by the petitioner be of sufficient quality and scope to support a determination that substitutes that reduce the overall risk to human health and environment are or are not currently or potentially available. The petitioner is free to choose the method or methods that substantiate the claim. However, the burden of proof is on the petitioner to show that these methods are, indeed, appropriate. EPA specifically requests comment on its proposal of a general claim requirement for the petition process as opposed to specific testing requirements.

In a part clearly labeled "Section I.C." EPA proposes that the petitioner must fully explain the basis for the petitioner's contention that there are or are not substitute products or manufacturing processes currently or potentially available that reduce the overall risk to human health and the environment.

For petitions to add a product containing or manufactured with a class II substance to the labeling requirement, EPA would expect the petitioner to show to a reasonable extent that at least one substitute meets all of the criteria for availability and reducing risk. As mentioned above, EPA proposes to evaluate petitions to apply the labeling requirement to any products

manufactured with or containing a class II substance in coordination with its regulations to implement the requirements of section 612. Section 612 authorizes EPA to promulgate regulations that, to the maximum extent practicable, replace class I or class II substances with chemicals, product substitutes or alternative manufacturing processes that reduce overall risks to human health and the environment. Proposed regulations implementing the requirements of section 612 are currently under development.

As part of the rulemakings in which EPA identifies available substitutes for class II products that reduce the overall risk under section 612, EPA intends to apply the labeling requirements under section 611 to those products where class II substances are still being used. Conversely, a determination that there are no currently or potentially available substitutes for class II products that reduce overall risk would not result in a labeling requirement. EPA thus proposes to evaluate petitions to add a class II product to the labeling requirement under section 611 in coordination with determinations made under section 612.

For petitions to temporarily exempt a product manufactured with a class I substance, EPA would expect the petitioner to show to a reasonable extent that all potential substitutes have been examined. The explanation in section I.C. should be done separately for each potential substitute examined by the petitioner (and numbered separately, *e.g.*, I.C.1., I.C.2., *etc.*) and should refer to the required supporting analyses accompanying the petition as specified in this subpart.

For example, alternatives to cleaning electronic circuit boards with class I substances are generally divided into five categories: Aqueous cleaning; low residue fluxes or "no-clean" assembly; controlled atmospheric soldering; alternate solvents (including chlorinated solvents, alcohols and HCFCs); and hydrocarbon or surfactant cleaning. (See Reference Manual of Practices to Reduce and Eliminate CFC–113 Use in the Electronics Industry.) At a minimum, EPA expects that a petition to exempt solvent-cleaned circuit boards from the labeling requirement would include detailed examinations of each of these categories with specific technical explanations and references to accompanying test results.

c. *Supporting data requirements.* EPA expects that references in support of the general claim for a petition to add a product containing or manufactured with a class II substance to or temporarily exempt a product manufactured with a class I substance from the labeling requirement would include one or more of the following: Technical or laboratory testing; literature surveys; and economic analysis. Supporting data requirements for each of these references are described below.

In a part clearly labeled "Section II.A.," the petitioner must fully describe any technical or laboratory tests used to support the petitioner's claims, including citations to appropriate technical references. All analysis and testing performed by the petitioner must be accurate, reproducible and performed in accordance with accepted quality assurance standards. In addition, an overall quality assurance and quality control plan must address all aspects of the tests or demonstrations and must be fully explained in this section.

Quality assurance standards might include "good laboratory" operations such as adequately trained and experienced personnel, good physical facilities and equipment, certified reagents and standards, and frequent servicing and calibration of instruments. An overall quality control plan might also include the following programs: (1) The sole use of methods that have been studied collaboratively and found acceptable (*i.e.*, "Standard Methods"); (2) routine calibration of analytical instruments using reference standards at least once each day; and (3) confirmation of the ability of a technical facility or laboratory to produce acceptable results by requiring analysis of a few reference samples once or twice a year.

Estimation techniques used by the petitioner in technical and laboratory tests must be appropriate, and test protocols accepted by appropriate standards organizations must be used. Examples of appropriate standards organizations include the American Society for Testing Materials (ASTM) and the Institute for Interconnecting and Packaging Electronic Circuits (IPC).

For each technical or laboratory test explained in section II.A. (and numbered separately as II.A.1., II.A.2., *etc.*), the petitioner must identify what estimation techniques and what test protocols were used and why these techniques and protocols were appropriate.

In a part clearly labeled "Section II.B.," the petitioner must fully describe any values taken from literature or estimated on the basis of known information, as opposed to direct measurements in the technical facility or laboratory, that are used to support the petitioner's claim. The petitioner must identify which values have been taken from literature or estimated on the basis of known information and explain why these values are appropriate. EPA expects that values used in support of a petition that are not the result of direct technical or laboratory testing would derive only from reputable peer-reviewed journals and would use theoretical studies that are based on conservative values.

In a part clearly labeled "Section II.C.," the petitioner must fully explain any economic analysis used to support the petitioner's claim. Economic impacts will only be considered in the context of determining whether a substitute is a viable alternative in that particular application. Such an analysis could include quantitative estimates of the costs associated with implementing an otherwise available substitute. If the petition asserts that implementing an available substitute will adversely affect the quality of a product, the petitioner should provide quantitative estimates of the expected impacts of such an outcome. Where potential economic consequences are not quantifiable, a full explanation of the potential impacts should be provided.

In support of any values used to support a petition that are drawn from technical or laboratory testing, available literature or economic analysis, EPA believes that it would be appropriate for the petitioner to present a thorough sensitivity analysis to identify and assess aspects of the test that contribute significantly to uncertainty. This analysis would show what assumptions or factors have the greatest bearing on the outcome of the test if they are changed or found to be incorrect. Although the Agency is not proposing to require that a sensitivity analysis accompany every petition at this time, it requests comment on whether such analysis should be required. EPA expects that affected industries that believe that they should not be subjected to the labeling requirement will submit petitions for categories of products as a group, and thus have the resources to carry out this detailed analysis, which could contribute to the Agency's making appropriate determinations under section 611.

EPA today proposes that any petition that does not include the certification requirements of sections I.A., I.B., and II.A. through II.C., in the format described above for each potential substitute examined by the petitioner, may be considered inadequate and returned to the petitioner.

4. Comments at Proposal to Add Products to or Remove Products From the Labeling Requirement

EPA is specifically interested in any information regarding the current or potential availability of substitutes that reduce the overall risk to human health and the environment for products containing class II substances or products manufactured with class I or class II substances. However, since all the information described in the subparts above would be required to ascertain the validity of a claim regarding the availability of such substitutes, EPA strongly encourages commenters that are in effect petitioning EPA to act on their information to meet all of the specified requirements for petitions.

*D. Economic Assessment of the Proposed Regulation*

1. Estimates of Costs and Benefits

EPA recognizes that there are a variety of potential costs associated with this rulemaking, including the following: the cost of reformulating or redesigning products to avoid labeling, administrative costs, additional printing costs, per unit costs of adding labels or tags, additional inventory management costs, and the label space opportunity cost. For many of the chemicals, the cost to reformulate a product or redesigning a product in reaction to this rule is not likely to occur because, as is recognized in the economic analysis, producers and manufacturers will be switching to CFC substitutes as quickly as is technologically possible, due to the phaseout regulations. For methyl chloroform, however, some acceleration of the phaseout may be possible as a result of today's proposed rule. Costs include those for one-time actions involved with changing existing labels to include the required warning statement and for administrative actions, such as developing a corporate position on how to implement the labeling requirement. The only end-use sectors expected to have per-unit costs are household and other refrigerated appliances because this sector is expected to apply a separate label to comply with the rule rather than modify an existing label. As a result, these one-time costs may be annualized over the effective length of the regulation (until phase-out). For example, if annualized over seven years at discount rates of 2, 6 and 10 percent per year, then the costs of labeling would equal, respectively, $9.2, $79.6 and $91.3 million. Annualized costs for reformulating products using methyl chloroform using the same rates were calculated to be $120, $140 and $160 million.

Both quantifiable and qualitative benefits are expected to result from the proposed regulation. Quantifiable pollution-prevention benefits would result from the proposed regulation to the extent that there is any decreased use of harmful ozone-depleting substances. Decreased use could occur because of better informed consumers buying fewer products that contain or are manufactured with ozone-depleting substances or because of manufacturers, anticipating an adverse consumer reaction, reformulating their products without the use of ozone-depleting substances. EPA's economic analysis was unable to quantify the benefits of labeling. Nonetheless, qualitative benefits associated with the more accurate expression of consumer preferences are expected. Quantitative benefits resulting from an earlier phaseout are unlikely for CFC products because they will be switching to alternatives due to the phaseout. Total potential benefits to the reformulation/redesigning of methyl chloroform (MCF) products, which could be chosen by manufacturers in place of labeling, were estimated to be from $743 to $1200 million.

POTENTIAL COSTS AND BENEFITS OF THE PROPOSED REGULATIONS

(Millions of dollars)

| | Costs | Benefits |
|---|---|---|
| Labeling | 60–445 | Qualitative. |
| Reformulating/ Redesigning Products. | 770 | 743–1200. |

The first benefit that was analyzed qualitatively is that the labeling requirement results in a better informed consumer, which adds to the effectiveness of the marketplace by providing more accurate expression of consumer preferences. One of the main objectives of the labeling program is to educate the public about products that contain or were manufactured with ozone-depleting substances. The label will identify all such products and thus allow better informed consumers to express their preferences in the marketplace. In addition, a qualitative benefit would result from the recoverable substances label. Accurate and consistent labeling of products containing recoverable ozone-depleting substances would enhance implementation and enforcement of EPA's refrigerant recycling program.

Data from the phase-out analyses were employed to estimate the annual quantity of ozone-depleting substances that would be used in each end-use sector. In end-use sectors where the phase-out analyses does not predict that by May 15, 1993 (the effective date of the labeling rule) full implementation of technologically available substitutes will occur, there is a potential for the labeling rule to give companies an added incentive to phase out ozone-depleting substances faster than the predicted rate. The incremental benefits associated with the potential reduction in the use of ozone-depleting substances (less skin cancer deaths, cataracts, etc.) could be significant. For example, EPA estimated that the full potential savings that could result from decreased use of methyl chloroform in aerosol and adhesive/coating products could total between $743 million and 1.2 billion. This calculation assumes, as discussed in the economic analysis on page 43, that MCF use in other sectors does not increase, such as in sectors where consumers could be less sensitive to labeling. EPA also estimated that the incremental costs of an early phaseout due to the labeling rule in sectors where the potential reductions in the use of ozone-depleting substances are greater than predicted in the phase-out analysis would roughly equal the estimated benefits.

2. Impact on Small Entities

Although this rule may affect thousands of products, as suggested by the list in appendix A, the Agency believes that the regulation, if promulgated, will not have a significant impact on a substantial number of small entities. EPA informally examined the impacts on small entities in the economic analysis accompanying this proposed regulation. Based upon its analysis, EPA believes that the labeling costs will vary directly with the size of the firm. In other words, EPA anticipates that small businesses will have significantly lower total costs than large businesses.

The costs of labeling analyzed by EPA in the economic analysis include both administrative costs, such as developing a corporate position on how to implement the labeling requirement, and costs involved with changing existing labels to include the required warning statement. EPA used a report published by FDA (see reference Compliance Costs of Food Labeling Regulations 1991) to predict the administrative costs of labeling. FDA estimated that these costs would be significantly lower for smaller firms than for larger firms. The average administrative costs for firms with net sales less than $100 million

were estimated to be $850 per firm, while the costs for firms with $100 million to $1 billion in net sales were estimated to be $6,067 per firm and the costs for firms greater than $1 billion were estimated to be $10,733 per firm.

EPA relied on the estimates of professionals in each end-use sector to roughly predict the one-time costs of changing existing labels on an average across the sector. EPA believes that these costs will also vary directly with the size of the firm. For example, a small business is likely to have fewer product lines than a large business. As a result, the small business would have fewer existing product line labels to change and therefore lower costs. In addition, any per-unit labeling costs would be lower for smaller firms that would likely sell fewer units than large firms.

Based upon its economic analysis, EPA believes that only a few of the significantly impacted end-use sectors are likely to include any small businesses. These are: aerosols manufacturers and repackagers (especially fillers), and manufacturers using solvents or adhesives in their products. Even to the extent that they exist within these sectors, the costs of changing the label will not necessarily be born by the small businesses. For example, aerosol fillers may include some small businesses but this sector is a service industry that is not likely to bear the cost of changing the label. Instead the cost is likely to be born by the chemical manufacturer employing the filler. These chemical manufacturers are not generally small businesses.

Given the flexibility in the proposed rule as to compliance methods, especially for products using solvents or adhesives, EPA believes that the actual labeling costs incurred by small businesses could be significantly less than EPA predicted for an average business in its economic analysis. In addition, since most manufacturers periodically change their labels for various reasons as a standard business practice, EPA believes that the lead time built into the statutory deadlines (one year between final rules and effective date) will further reduce the labeling costs for small and large businesses below EPA's estimate.

Based upon its analysis of the administrative costs of labeling and the costs associated with changing existing labels, EPA believes that although this rule may affect many small entities the proposed regulation would not have a significant impact on a substantial number of small entities.

The Agency requests comment on the costs of these regulations to small entities and whether additional costs may be incurred by them due to large inventories of labels existing on May 15, 1993 that would not include the required test and thus would have to be modified or replaced. EPA requests information on the likelihood of this situation occurring and, to the extent that small entities could incur additional costs, seeks comment on the possible treatment of the problem and methods to minimize any such costs.

## IV. "Ozone-Friendly" Labeling

The issue of "positive" or "green" labeling of products regarding their effect on stratospheric ozone has been recently addressed by the Federal Trade Commission (FTC), the State Attorneys General and others. For example, FTC recently announced a consent agreement with a manufacturer of spray products that would prohibit the use of "ecologically safe" claims for products containing class I ozone-depleting substances. This prohibition included the use of the terms "ozone-friendly," "ozone-safe" and similar terms.

Recommendations for responsible environmental advertising, including references to ozone safety, were developed in The Green Report (November, 1990) and updated in The Green Report II (May, 1991) by a Task Force of State Attorneys General from California, Florida, Massachusetts, Minnesota, Missouri, New York, Tennessee, Texas, Utah, Washington and Wisconsin. Building on the actions taken by the FTC against products containing ozone-depleting ingredients which are promoted as "ozone-friendly," The Green Report II specifically states that "The Task Force is also concerned that stating that such a product 'contains no CFCs' may also mislead because the phrase 'no CFCs' may mean 'safe for the ozone' to many consumers." It also suggests that labeling a product that does not contain any ozone-depleting substances as "safe for the environment" may be misleading "because many of these products contain volatile organic compounds that are linked to the creation of ground level ozone, a component of smog." Finally, the Report recommends that "A more appropriate, less confusing claim for such a product would be one which states 'contains no ozone depleting ingredients' or 'does not contribute to ozone depletion.'"

EPA fully supports the actions by the FTC and the State Attorneys General in the area of environmental claims and recognizes that significant confusion may exist with regard to the use of CFCs and other class I and class II ozone-depleting substances in consumer products, most notably aerosols. In response to this and other issues, EPA recently joined with the FTC and the U.S. Office of Consumer Affairs (OCA) to form an interagency task force on environmental labeling. The purpose of the task force is to provide a coordinated and cohesive national response to the issue of environmental labeling and marketing claims, including claims of ozone safety. Guidelines on several environmental claims will be published in the **Federal Register** in the near future.

Section 611 of the Clean Air Act mandates warning labels on products containing or manufactured with ozone-depleting substances but does not authorize EPA to regulate the use of terms such as "ozone-friendly." Nonetheless, EPA has presented the recent actions by FTC and the State Attorneys General in order to inform the public about the status of this related issue. EPA also believes that, while the broad issue of environmental claims is not directly addressed by section 611, the warning label requirement will help to alleviate some of the confusion currently surrounding claims like "ozone-friendly" and "contains no CFCs" by clearly informing consumers as to which products use ozone-depleting substances.

## V. Additional Information

### *A. Executive Order 12291*

Executive Order (E.O.) 12291 requires the preparation of a regulatory impact analysis for major rules, defined by the order as those likely to result in:

(1) An annual effect on the economy of $100 million or more;

(2) A major increase in costs or prices for consumers, individual industries, Federal, State or local government agencies, or geographic industries; or

(3) Significant adverse effects on competition, employment, investment, productivity, innovation, or on the ability of the United States-based enterprises to compete with foreign-based enterprises in domestic or export markets.

EPA has determined that this proposed regulation does not meet the definition of a major rule under E.O. 12291 and has therefore not prepared a formal regulatory impact analysis. EPA has instead prepared a detailed economic analysis (see background document accompanying this proposed rulemaking and part III.D. above) which estimates and compares the potential costs and benefits of the proposed regulation, using the reductions of production and consumption under the phase-out as a baseline.

*B. Regulatory Flexibility Act*

The Regulatory Flexibility Act, 5 U.S.C. 601–602, requires that Federal agencies examine the impacts of their regulations on small entities. Under 5 U.S.C. 604(a), whenever an agency is required to publish a general notice of proposed rulemaking, it must prepare and make available for public comment an initial regulatory flexibility analysis (RFA). Such an analysis is not required if the head of an agency certifies that a rule will not have a significant economic impact on a substantial number of small entities, pursuant to 5 U.S.C. 605(b).

The Agency believes that the regulation, if promulgated, will not have a significant impact on a substantial number of small entities and has therefore concluded that a formal RFA is unnecessary. Instead, EPA informally examined the impacts on small entities in the background document accompanying this proposed regulation. (See docket and part III.D. above.)

*C. Paperwork Reduction Act*

Any information collection requirements in a proposed rule must be submitted for approval to the Office of Management and Budget (OMB) under the Paperwork Reduction Act, 44 U.S.C. 3501 *et seq.* While this proposed rule does include provisions for manufacturers of products that are manufactured with class I ozone-depleting substances to petition the Agency for temporary exemption, EPA does not expect that 10 or more manufacturers will initiate a petition after the regulations are promulgated. Therefore, EPA has determined that the Paperwork Reduction Act does not apply and no Information Collection Request document has been prepared.

## VI. References


Federal Trade Commission. Staff Report on the Cigarette Advertising Investigation (1981).

Rudd, Joel. "Aiding Consumer Nutrition Decisions with the Simple Graphic Label Format." Home Economics Research Journal (March, 1986).

The Green Report: Findings and Preliminary Recommendations for Responsible Environmental Advertising. Ten-State Task Force of Attorneys General (November, 1990).

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United States Department of Commerce, National Bureau of Standards. The Development of Effective Symbol Signs (1982).

United States Department of Health and Human Service, Food and Drug Administration. Compliance Costs of Food Labeling Regulations (1991).

United States Environmental Protection Agency. Manual of Practices to Reduce and Eliminate CFC–113 Use in the Electronics Industry (March, 1990).


## List of Subjects in 40 CFR Part 82

Chlorofluorocarbons, Clean Air Amendments of 1990, Motor vehicle air conditioning, Stratospheric ozone layer.

Dated: April 15, 1992.

**William K. Reilly,**

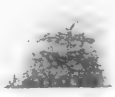
*Administrator.*

APPENDIX A—PART 1: PARTIAL LIST OF PRODUCTS POTENTIALLY RELEASING CLASS I OR CLASS II SUBSTANCES

| Product | Containers/ manufactured | Class I | Class II |
|---|---|---|---|
| **Aerosols/Pressurized Containers** | | | |
| Pesticides: | | | |
| Aircraft insecticide | Containers | CFC–113 | |
| Commercial food prep area insecticide | Containers | CFC–113, MCF | |
| Carpet flea spray | Containers | MCF | |
| Flying insect killers | Containers | MCF | |
| Foggers—indoor and outdoor | Containers | MCF | |
| House and garden insecticide | Containers | MCF | |
| Residual insecticides—roach spray | Containers | MCF | |
| Wasp/hornet spray | Containers | MCF, CFC–113 | |
| Rose and floral spray | Containers | MCF | |
| Tomato and vegetable insecticide | Containers | MCF | |
| Spider mite spray | Containers | MCF | |
| Prune sealer | Containers | MCF | |
| Leaf shine (not a pesticide) | Containers | MCF | |
| Automobile products: | | | |
| Automotive undercoatings | Containers | MCF | |
| Brake cleaner | Containers | MCF | |
| Carburator/choke cleaner | Containers | MCF | |
| Electric motor cleaner | Containers | MCF, CFC–113 | |
| Emergency tire inflator | Containers | CFC–12, MCF | HCFC–22 |
| Engine cleaner | Containers | MCF | |
| Leak sealer | Containers | MCF | |
| Penetrating lubricants (nut loosener) | Containers | MCF | |
| Spray chain lubricant | Containers | MCF | |
| Spray lubricants | Containers | MCF | |
| Spray-a-gasket adhesive sealant | Containers | MCF | |
| Tire cleaners | Containers | MCF | |
| Wiring waterproofer | Containers | MCF | |
| Industrial products: | | | |
| Silicone lubricant | Containers | MCF | |
| Food-grade silicone | Containers | MCF | |
| Cutting oil (for metal cutting) | Containers | MCF | |
| White lithium grease | Containers | MCF | |
| Degreaser | Containers | MCF | HCFC–22 |
| Contact cleaner | Containers | CFC–113 | |
| Corrosion inhibitor | Containers | MCF | |
| Aerosol freeze spray (bearing inserter) | Containers | CFC–12 | HCFC–22 |
| Mold release agents | Containers | CFC–11, 12, 113, MCF | |

APPENDIX A—PART 1: PARTIAL LIST OF PRODUCTS POTENTIALLY RELEASING CLASS I OR CLASS II SUBSTANCES—Continued

| Product | Containers/ manufactured | Class I | Class II |
|---|---|---|---|
| Weld inspection dye | Containers | CFC–12 | HCFC–22 |
| Weld inspection cleaner | Containers | MCF | |
| Mercapatan stench mine warning | Containers | CFC–12 | |
| Electronic/photographic products: | | | |
| Contact cleaner | Containers | CFC–113, MCF | |
| Electronics/camera dusters | Containers | CFC–12 | HCFC–22 |
| Freezing/fault isolation spray for electronic mfg./repair | Containers | CFC–12 | HCFC–22 |
| Motion picture film cleaner | Containers | MCF | |
| Photographic film cleaner | Containers | CFC–113 | |
| TV tuner cleaner | Containers | CFC–11 | |
| Cleaner/degreaser | Containers | CFC–11/113 | |
| Flux remover | Containers | CFC–11 | |
| Electric model train track cleaner | Containers | MCF | |
| Household products: | | | |
| Aerosol freeze spray (gum remover) | Containers | CFC–12 | HCFC–22 |
| Clipper blade coolant | Containers | MCF | |
| Drain cleaners/pressurized blowers | Containers | CFC–12 | |
| Artificial snow/glass frosting | Containers | MCF | |
| Leather/suede cleaner/protector/conditioner | Containers | MCF | |
| Paint/graffiti remover | Containers | MCF | HCFC–22 |
| Party confetti (plastic party streamers) | Containers | CFC | |
| Spot remover | Containers | MCF | |
| Spray shoe polish | Containers | MCF | |
| Stain killer paint primer | Containers | MCF | |
| Water and oil repellent | Containers | MCF | |
| Water repellent for leather | Containers | MCF | |
| Shoe waterproofer | Containers | MCF | |
| Wood cleaners and protectors | Containers | MCF | |
| Outdoor fabric protector | Containers | MCF | |
| Fabric protector | Containers | MCF | |
| Fine tie protector | Containers | MCF | |
| Clothing protector | Containers | MCF | |
| Kitchen fire extinguishers | Containers | MCF | |
| Cosmetics: | | | |
| Deodorant | Containers | | HCFC–22, 142b |
| Hair color spray | Containers | MCF | |
| Hair conditioner | Containers | MCF | |
| Strong-hold hair spray | Containers | MCF | HCFC–22 |
| Hair spray | Containers | MCF | HCFC–22 |
| Nail polish dryer | Containers | MCF | |
| Perfumes | Containers | | HCFC–22 |
| Art supplies: | | | |
| Drawing board cleaner | Containers | MCF | |
| Dulling/fixative spray | Containers | MCF | |
| Spray adhesive | Containers | MCF | |
| Spray varnish for oil paints | Containers | MCF | |
| Medical: | | | |
| Bronchial inhalent medicines | Containers | CFC–11, 12, 114 | |
| Contraceptive foam | Containers | CFC–12, 114 | |
| Hemhoroidal foam | Containers | CFC ?? | |
| Lubricant for pharm. table mfg | Containers | CFC–113, 12 | |
| Presurgical skin cleaners | Containers | CFC–113 | |
| Skin chillers | Containers | CFC–11, 12, 114 | |
| Other products: | | | |
| Diamond-grit spray | Containers | CFC–11, 12 | |
| Safety horns (boats, personal safety) | Containers | CFC–12 | HCFC–22 |
| Party horns | Containers | CFC–12 | |
| Single-station heat detector | Containers | CFC–12 | |
| Military: | | | |
| Flying insect spray | Containers | CFC | |
| Electronic maintenance and testing | Containers | CFC | |
| Weld inspection systems | Containers | CFC–12, MCF | |
| **Nonaerosol Cleaning Products** | | | |
| Household products: | | | |
| Dye preparation/cleaner | Containers | MCF | |
| Spot remover | Containers | MCF | |
| Electronic/photographic cleaners: | | | |
| Vapor fusing fluids for overhead projectors | Containers | MCF | |
| Typewriter cleaner | Containers | MCF | |
| Photoreceptor cleaning fluid (Xerox) | Containers | MCF | |
| Motion picture film cleaner | Containers | MCF | |
| Contact cleaner | Containers | CFC–113, MCF | |
| Photographic film cleaner | Containers | CFC–113 | |
| Professional cleaning products: | | | |
| Carpet pre-spray | Containers | MCF | |
| Carpet spot remover | Containers | MCF | |
| Upholstery cleaners | Containers | MCF | |



APPENDIX A—PART 1: PARTIAL LIST OF PRODUCTS POTENTIALLY RELEASING CLASS I OR CLASS II SUBSTANCES—Continued

| Product | Containers/ manufactured | Class I | Class II |
|---|---|---|---|
| Disaster cleaner | Containers | MCF | |
| **Adhesives** | | | |
| **Adhesive Products** | | | |
| Consumer products: | | | |
| Consumer contact cement | Containers | MCF | |
| Sport and shoe patch | Containers | MCF | |
| Gutter adn drain sealant | Containers | MCF | |
| Spray cement for artwork | Containers | MCF | |
| Spray mount | Containers | MCF | |
| Construction: | | | |
| Industrial contact cement | Containers | MCF | |
| Industrial pressure sensitive adhesives | Containers | MCF | |
| Concrete adhesive | Containers | MCF | |
| Flourinated polymer seal materials | Containers | MCF | |
| Joint cements | Containers | MCF | |
| Roofing sealant | Containers | MCF | |
| Sealant primer | Containers | MCF | |
| Vinyl floor sealer | Containers | MCF | |
| **Products Manufactured with Adhesives** | | | |
| Construction: | | | |
| Acoustic panels installation | Manufactured with | MCF | |
| Carpetting installation | Manufactured with | MCF | |
| Counter top lamination | Manufactured with | MCF | |
| Wood floors | Manufactured with | MCF | |
| Prefabricated beams adn trusses | Manufactured with | MCF | |
| Recreational turf installation | Manufactured with | MCF | |
| Packaging: | | | |
| Cigarette filters | Manufactured with | MCF | |
| Composite containers and tubes | Manufactured with | MCF | |
| Computer disc envelopes | Manufactured with | MCF | |
| Corregated boxes | Manufactured with | MCF | |
| Cups | Manufactured with | MCF | |
| Envelopes | Manufactured with | MCF | |
| Labels | Manufactured with | MCF | |
| Laminated products | Manufactured with | MCF | |
| Paper bags | Manufactured with | MCF | |
| Other paper food packaging | Manufactured with | MCF | |
| Non-rigid bonding: | | | |
| Books, pads, journals, etc. | Manufactured with | MCF | |
| Carpeting | Manufactured with | MCF | |
| Shoes | Manufactured with | MCF | |
| Sporting goods | Manufactured with | MCF | |
| Textile fabrics coated with adhesive | Manufactured with | MCF | |
| Textiles bonded with adhesive | Manufactured with | MCF | |
| Rigid bonding: | | | |
| Appliance assembly | Manufactured with | MCF | |
| Cabinets | Manufactured with | MCF | |
| Doors | Manufactured with | MCF | |
| Metal furniture | Manufactured with | MCF | |
| Hard wood furniture | Manufactured with | MCF | |
| Soft wood furniture | Manufactured with | MCF | |
| Road signs | Manufactured with | MCF | |
| Transportation: | | | |
| Aircraft assembly | Manufactured with | MCF | |
| Automobile assembly | Manufactured with | MCF | |
| Batteries | Manufactured with | MCF | |
| Trim attachment | Manufactured with | MCF | |
| Vinyl roof assembly | Manufactured with | MCF | |
| Foam bonding: | | | |
| Automobiles | Manufactured with | MCF | |
| Furniture | Manufactured with | MCF | |
| Sports equipment | Manufactured with | MCF | |
| Tapes: | | | |
| Pressure-sensitive tapes | Containers | MCF | |
| **Coating** | | | |
| Bulk coatings: | | | |
| Coatings | Containers | MCF | |
| Inks | Containers | MCF | |
| Paints | Containers | MCF | |
| Traffic paints | Containers | MCF | |
| Paper correction fluid | Containers | MCF | |
| Products made with coatings: | | | |
| Aircraft parts-primer | Manufactured with | MCF | |
| Aircraft-topcoat | Manufactured with | MCF | |
| Air conditioning equipment | Manufactured with | MCF | |

APPENDIX A—PART 1: PARTIAL LIST OF PRODUCTS POTENTIALLY RELEASING CLASS I OR CLASS II SUBSTANCES—Continued

| Product | Containers/ manufactured | Class I | Class II |
|---|---|---|---|
| Aluminum extrusion | Manufactured with | MCF | |
| Aluminum siding | Manufactured with | MCF | |
| Appliances-small | Manufactured with | MCF | |
| Automobile electronics | Manufactured with | MCF | |
| Automobile parts-under hood | Manufactured with | MCF | |
| Automobile parts-exterior | Manufactured with | MCF | |
| Concrete reinforcing bars | Manufactured with | MCF | |
| Electrical components | Manufactured with | MCF | |
| Electrical transformer covers | Manufactured with | MCF | |
| Decorative metal fixtures (handrails, fencing) | Manufactured with | MCF | |
| Metal furniture-outdoors | Manufactured with | MCF | |
| Metal furniture-indoors | Manufactured with | MCF | |
| Hardboard | Manufactured with | MCF | |
| Heavy equipment | Manufactured with | MCF | |
| Fence posts for highway and farm | Manufactured with | MCF | |
| Metal doors | Manufactured with | MCF | |
| Lawn and gardening equipment | Manufactured with | MCF | |
| Pumps | Manufactured with | MCF | |
| Bicycles | Manufactured with | MCF | |
| Paper clips | Manufactured with | MCF | |
| Lighting fixtures | Manufactured with | MCF | |
| Metal containers (computer covers, telephone boxes) | Manufactured with | MCF | |
| Steel shelving | Manufactured with | MCF | |
| Structured steel | Manufactured with | MCF | |
| Underground pipes | Manufactured with | MCF | |
| Farm/road construction equipment | Manufactured with | MCF | |
| Plumbing fixtures (water heaters, faucets) | Manufactured with | MCF | |
| Inks: | | | |
| Packaging | Manufactured with | MCF | |
| Specialty printing (catalogs, glossy advertisements) | Manufactured with | MCF | |
| **Fire Extinguishers** | | | |
| Commercial portable: | | | |
| Computer rooms | Containers | Halons | |
| Residential/automobile | Containers | Halons | |
| Libraries/record storage | Containers | Halons | |
| Office buildings | Containers | Halons | |
| Chemical laboratories | Containers | Halons | |
| Aircraft cabins | Containers | Halons | |
| Nuclear plant control rooms | Containers | Halons | |
| Power station control rooms | Containers | Halons | |
| Air traffic control towers | Containers | Halons | |
| Commercial total flooding: | | | |
| Computer rooms | Containers | Halons | |
| Telephone exchanges | Containers | Halons | |
| High value records/cultural heritage | Containers | Halons | |
| Ships (machinery spaces) | Containers | Halons | |
| Pipeline pumping stations | Containers | Halons | |
| Alaskan pipeline | Containers | Halons | |
| Aircraft engine nacelles | Containers | Halons | |
| Military portable: | | | |
| Aircraft cabins | Containers | Halons | |
| Spacecraft | Containers | Halons | |
| Tactical vehicles | Containers | Halons | |
| Air traffic control towers | Containers | Halons | |
| Ship control rooms | Containers | Halons | |
| Military total flooding: | | | |
| Computer rooms | Containers | Halons | |
| Defense facilities | Containers | Halons | |
| Ships (machinery spaces) | Containers | Halons | |
| Aircraft engine nacelles | Containers | Halons | |
| **Foams** | | | |
| Rigid Polyurethane: sprayed | | | |
| Aerosol crack or crevice filler | Containers | CFC–11 | |
| Barge floatation cavity wall filler | Containers | CFC–11 | |
| Bathroom fixture insulation | Containers | CFC–11 | |
| Boat hull void filler | Containers | CFC–11 | |
| Buoy floatation cavity wall filler | Containers | CFC–11 | |
| Commercial roof insulation | Containers | CFC–11 | |
| Commercial wall insulation | Containers | CFC–11 | |
| Display cabinets | Containers | CFC–11 | |
| Freezer insulation | Containers | CFC–11 | |
| Industrial storage tanks | Containers | CFC–11 | |
| Pipe insulation | Containers | CFC–11 | |
| Pipeline ditch dam | Containers | CFC–11 | |
| Refrigerated transport trailers or tanks | Containers | CFC–11 | |

APPENDIX A—PART 1: PARTIAL LIST OF PRODUCTS POTENTIALLY RELEASING CLASS I OR CLASS II SUBSTANCES—Continued

| Product | Containers/ manufactured | Class I | Class II |
|---|---|---|---|
| Residential roof insulation | Containers | CFC–11 | |
| Residential wall insulation | Containers | CFC–11 | |
| Space shuttle tank exterior | Containers | CFC–11 | |
| Water heaters | Containers | CFC–11 | |
| Rigid Polyurethane: Poured-in-place | | | |
| Aircraft carrier torpedo protection | Containers | CFC–11 | |
| Appliance moulded packaging | Manufactured with | CFC–11 | |
| Audio-visual moulded packaging | Manufactured with | CFC–11 | |
| Automobile hood/trunk covers | Containers | CFC–11 | |
| Beer kegs | Containers | CFC–11 | |
| Building construction insulation | Containers | CFC–11 | |
| Buoy floatation devices | Containers | CFC–11 | |
| Buoys for raising sunken ships | Containers | CFC–11 | |
| Cavity filler | Containers | CFC–11 | |
| Cold storage discontinuous panels | Containers | CFC–11 | |
| Computer housing | Containers | CFC–11 | |
| Foam ice chests | Containers | CFC–11 | |
| Foam-filled steel doors | Containers | CFC–11 | |
| Freezer insulation | Containers | CFC–11 | |
| Furniture parts | Containers | CFC–11 | |
| Industrial construction insulation | Containers | CFC–11 | |
| Molded component packaging | Manufactured with | CFC–11 | |
| Packaging material | Manufactured with | CFC–11 | |
| Personal computer moulded packaging | Manufactured with | CFC–11 | |
| Picture frames | Containers | CFC–11 | |
| Portable coolers | Containers | CFC–11 | |
| Refrigerated tanks | Containers | CFC–11 | |
| Refrigerated transportation insulation | Containers | CFC–11 | |
| Refrigeration insulation | Containers | CFC–11 | |
| Refrigerator insulation | Containers | CFC–11 | |
| Telephone pole base insulation | Containers | CFC–11 | |
| Underground phone line insulation | Containers | CFC–11 | |
| Rigid Polyurethane: Bunstock/boardstock | | | |
| Equipment insulating material | Containers | CFC–11, 12, 13 | |
| Industrial construction building material | Containers | CFC–11, 12, 13 | |
| Insulating building material | Containers | CFC–11, 12, 13 | |
| Roof insulation | Containers | CFC–11, 12, 13 | |
| Wall insulation sheathing | Containers | CFC–11, 12, 13 | |
| Farm building insulation | Containers | CFC–11, 12, 13 | |
| Frame wall sheathing | Containers | CFC–11, 12, 13 | |
| Metal building insulation | Containers | CFC–11, 12, 13 | |
| Solar collection insulation | Containers | CFC–11, 12, 13 | |
| Storage tank insulation | Containers | CFC–11, 12, 13 | |
| Tank car insulation | Containers | CFC–11, 12, 13 | |
| Insulated transport containers | Containers | CFC–11, 12, 13 | |
| Flexible Polyurethane: Slabstock | | | |
| Automotive interiors | Manufactured with | CFC–11 | |
| Bedding foam mattresses | Manufactured with | CFC–11 | |
| Bedding form pillows | Manufactured with | CFC–11 | |
| Bicycle seats | Manufactured with | CFC–11 | |
| Carpet pad/underlay | Manufactured with | CFC–11 | |
| Foam chairs | Manufactured with | CFC–11 | |
| Foam sofas | Manufactured with | CFC–11 | |
| Foam toys | Manufactured with | CFC–11 | |
| Furniture cushions | Manufactured with | CFC–11 | |
| In place urethane packaging | Manufactured with | CFC–11 | |
| Motorcycle seats | Manufactured with | CFC–11 | |
| Scrap flexible foam | Manufactured with | CFC–11 | |
| Vehicle door panel padding | Manufactured with | CFC–11 | |
| Vibration dampeners | Manufactured with | CFC–114 | |
| Flexible Polyurethane: Molded | | | |
| No CFCs are used | | | |
| Integral skin and miscellaneous Polyurethane foams | | | |
| Automobile exterior body parts (bumpers) | Containers | CFC–11, 113 | |
| Dashboard energy absorbing foams | Containers | CFC–11, 113 | |
| Steering wheels, headrests, armrests | Containers | CFC–11, 113 | |
| Roll bar padding | Containers | CFC–11, 113 | |
| Beer barrels | Containers | CFC–11, 113 | |
| Computer cabinets | Containers | CFC–11, 113 | |
| Floral arrangement foams | Containers | CFC–11, 113 | |
| Low density rigid packaging | Containers | CFC–11, 113 | |
| Rigid flotation foams | Containers | CFC–11, 113 | |
| Toys/novelties | Containers | CFC–11, 113 | |
| Shoe soles | Containers | CFC–11, 113 | |
| Car wash rollers | Containers | CFC–11, 113 | |
| Seat cushions (tractors, trucks, exercise machines) | Containers | CFC–11, 113 | |
| Golf cart wheels | Containers | CFC–11, 113 | |
| Coolers and freezers | Containers | CFC–11, 113 | |
| Skis | Containers | CFC–11, 113 | |

APPENDIX A—PART 1: PARTIAL LIST OF PRODUCTS POTENTIALLY RELEASING CLASS I OR CLASS II SUBSTANCES—Continued

| Product | Containers/ manufactured | Class I | Class II |
|---|---|---|---|
| Tennis rackets | Containers | CFC–11, 113 | |
| Medical uses (chair padding) | Containers | CFC–11, 113 | |
| Weapons padding (part of a gun) | Containers | CFC–11, 113 | |
| Extruded low Density Polyothylene foam: | | | |
| Bicycle seats | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Body surfing boards | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Buoys | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Buoy/dock protective padding | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Concrete curing planks | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Flotation life jackets | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Floating docks | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Foam toys | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Furniture protective wrap | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Gaskets | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| High-value object cushioning | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Mattress boarders | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Oil boom flotation | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Packaging materials (MAJOR USE) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Seat cushions (boat, plane, snowmobile, motorcycle) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Thermal insulation | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Vehicle sound insulation (roof, door) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Vibration dampeners | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Window sill plates | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Military packaging | Containers | CFC–11, 12, 114 | |
| Low density Polypropylene foam: | | | |
| Buoy/dock protective padding | Containers | CFC–11, 12, 114 | HCFC–142b |
| Commercial masonry wall insulation | Containers | CFC–11, 12, 114 | HCFC–142b |
| Delicate item cushioning/protection | Containers | CFC–11, 12, 114 | HCFC–142b |
| Insulating blankets | Containers | CFC–11, 12, 114 | HCFC–142b |
| Concrete curing insulation | Containers | CFC–11, 12, 114 | HCFC–142b |
| Marine booms | Containers | CFC–11, 12, 114 | HCFC–142b |
| Packaging materials | Containers | CFC–11, 12, 114 | HCFC–142b |
| Shrub insulating covers | Containers | CFC–11, 12, 114 | HCFC–142b |
| Void filling | Containers | CFC–11, 12, 114 | HCFC–142b |
| Other mixed Polyolefin foams: | | | |
| Automotive bumper systems (PE/PP) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Concrete reinforcements | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Construction materials (PE/PP) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Cushion packaging (PE/PP) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Filter elements | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Flotation devices (PE/PP) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Furniture protective padding (PE/PP) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Gaskets (PE/PP) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| High-value object padding (PE/PP) | Containers | CFC–11, 12, 114 | HCFC–22, 142b |
| Phenolic foam: | | | |
| Chemical spill cleanup foam | Containers | CFC–11. 113 | |
| Floral arrangement base | Containers | CFC–11. 113 | |
| Ink filter | Containers | CFC–11. 113 | |
| Frame wall sheathing | Containers | CFC–11. 113 | |
| Roof/wall insulation | Containers | CFC–11. 113 | |
| Polyvinyl Chloride foam—Low density: | | | |
| No CFCs are used | | | |
| Polyvinyl chloride foam—High density extruded: | | | |
| No CFCs are used | | | |
| Extruded Polystyrene insulation board: | | | |
| Agricultural roof, floor, wall insulation | Containers | CFC–12 | HCFC–22 |
| Basement/foundation/inverted roof insulation | Containers | CFC–12 | HCFC–22 |
| Steel building insulation | Containers | CFC–12 | HCFC–22 |
| Coaxial cable | Containers | CFC–12 | HCFC–22 |
| Commercial masonry wall insulation | Containers | CFC–12 | HCFC–22 |
| Concrete building insulation | Containers | CFC–12 | HCFC–22 |
| Core material for sandwich panel construction | Containers | CFC–12 | HCFC–22 |
| Dwelling roof, floor, wall insulation | Containers | CFC–12 | HCFC–22 |
| Frame wall sheathing insulation | Containers | CFC–12 | HCFC–22 |
| Frostheave railway/roadway protection | Containers | CFC–12 | HCFC–22 |
| Metal building insulation | Containers | CFC–12 | HCFC–22 |
| Tile and plaster backing | Containers | CFC–12 | HCFC–22 |
| Expanded Polystyrene: | | | |
| No CFCs are used | | | |
| Rigid extruded Polystyrene sheet: | | | |
| Disposable dishes | Containers | CFC–12 | HCFC–22 |
| Disposable packaging | Containers | CFC–12 | HCFC–22 |
| Dunnage | Containers | CFC–12 | HCFC–22 |
| Egg cartons | Containers | CFC–12 | HCFC–22 |
| Fast food 'clam shell' boxes | Containers | CFC–12 | HCFC–22 |
| Foam drinking cups | Containers | CFC–12 | HCFC–22 |
| Laminated sheets for insulation | Containers | CFC–12 | HCFC–22 |
| Supermarket meat trays | Containers | CFC–12 | HCFC–22 |
| Supermarket produce trays | Containers | CFC–12 | HCFC–22 |

APPENDIX A—PART 1: PARTIAL LIST OF PRODUCTS POTENTIALLY RELEASING CLASS I OR CLASS II SUBSTANCES—Continued

| Product | Containers/ manufactured | Class I | Class II |
|---|---|---|---|
| Wraparound labels | Containers | CFC–12 | HCFC–22 |
| **Plastic Non-Foam Products** | | | |
| Postal mailers | Manufactured with | CFC–11 | |
| Toxic cleanup clothes | Manufactured with | CFC–11 | |
| **Refrigeration** | | | |
| Refrigerated transport: | | | |
| Airplane on-board refrg system | Containers | CFC–12 | |
| Comm. fishing boat refrigeration | Containers | CFC–12 | |
| Mobile refrigeration–containers/trailer/trucks | Containers | CFC–12 | |
| Mobile refrigeration–containers/trailers/trucks | Containers | CFC–500 | |
| Mobile refrigeration–containers/trailers/trucks | Containers | CFC–502 | |
| Chillers: | | | |
| Centrifugal chillers | Containers | CFC–11 | H |
| Centrifugal chillers | Containers | CFC–114 | |
| Centrifugal chillers | Containers | CFC–12 | |
| Centrifugal chillers | Containers | CFC–500 | |
| Reciprocating chillers | Containers | CFC–12 | |
| Retail food storage systems: | | | |
| Grocery store freezers | Containers | CFC–502 | HCFC–22 |
| Grocery store fridges | Containers | CFC–12 | HCFC–22 |
| Household appliances: | | | |
| Home central A/C | Containers | | HCFC–22 |
| Household freezers | Containers | CFC–12 | |
| Household refrigerators | Containers | CFC–12 | |
| Room A/C | Containers | | HCFC–22 |
| Other appliances: | | | |
| Beer dispensers | Containers | CFC–12 | |
| Dehumidifiers | Containers | CFC–12 | |
| Ice makers | Containers | CFC–12 | |
| Ice makers | Containers | CFC–502 | |
| Soda fountain dispensers | Containers | CFC–12 | |
| Soft ice cream/yog machines | Containers | CFC–12 | |
| Vending machines with refrigeration | Containers | CFC–12 | |
| Water coolers | Containers | CFC–12,500 | |
| Process refrigeration: | | | |
| Chemical plants | Containers | CFC–12,502 | |
| Commercial/industrial ice machines | Containers | CFC–12,502 | |
| Compressed gas storage | Containers | CFC–12,502 | |
| Concrete dam or tunnel construction | Containers | CFC–12,502 | |
| Dairy and meat packing | Containers | CFC–12,502 | |
| Environmental test equipment | Containers | CFC–12 502 | |
| Freeze dried coffee manufacturing | Containers | CFC–12 502 | |
| Ice manufacturing | Containers | CFC–12 502 | |
| Ice rinks | Containers | CFC–502 | |
| Papermills | Containers | CFC–12 502 | |
| Petrochemical plants | Containers | CFC–12 502 | |
| Refineries | Containers | CFC–12 502 | |
| Volatile liquid storage | Containers | CFC–12 502 | |
| Other process refrigeration | Containers | CFC–12 502 | |
| Military: | | | |
| Missile coolant systems | Containers | CFC | |
| Space shuttle coolant system | Containers | CFC | |
| Space simulators | Containers | CFC | |
| Liquid food freezing | Containers | CFC–12 | |
| Cold storage warehouse: | | | |
| CFC–12 system | Containers | CFC–12 | |
| CFC–502 system | Containers | CFC–502 | |
| Refrigeration system parts: | | | |
| Condensing units | Containers | CFC–12 | |
| Reciprocal compressors | Containers | CFC–12 | |
| Rotary compressors | Containers | CFC–12 | |
| Mobile air conditioning: | | | |
| Aircraft A/C | Containers | CFC–12 | |
| Auto A/C | Containers | CFC–12 | |
| Bus A/C | Containers | CFC–12 | |
| Train A/C | Containers | CFC–12 | |
| Truck A/C | Containers | CFC–12 | |
| **Medical Products** | | | |
| Blood plasma | Manufactured with | CFC | |
| Cryogenic medical instruments | Containers | CFC | |
| Drug delivery systems | Containers | CFC | |
| Gel capsules | Manufactured with | Carbon Tet | |
| Medical apparatus syringes | Manufactured with | CFC | |
| Medical sterile packaging | Manufactured with | CFC | |

APPENDIX A—PART 1: PARTIAL LIST OF PRODUCTS POTENTIALLY RELEASING CLASS I OR CLASS II SUBSTANCES—Continued

| Product | Containers/ manufactured | Class I | Class II |
|---|---|---|---|
| Parts of medical instruments | Manufactured with | CFC–113 | |
| Rotary-tab press punch lubs | Containers | CFC | |
| Surgical staplers | Manufactured with | CFC | |
| Surgical tubing | Manufactured with | CFC | |
| **Sterilization** | | | |
| Commercial | Containers | CFC | |
| Hospital | Containers | CFC | |
| Medical equipment | Containers | CFC | |
| Pharmaceutical | Containers | CFC | |
| R & D facilities | Containers | CFC | |
| **Food** | | | |
| Low tar tobacco | Manufactured with | CFC–11 | |
| Freeze dried coffee | Manufactured with | CFC–12 or 502 | |
| Spices | Manufactured with | CFC | |
| Whipping topping stabilizer | Containers | CFC–115 | |
| **Chlorinated Rubber** | | | |
| Automotive seals and gaskets | Manufactured with | Carbon Tet | |
| Flexographic printing plates (for packaging printing) | Manufactured with | Carbon Tet | |
| Milking machines | Manufactured with | Carbon Tet | |
| Miscellaneous tubing, deals, and liners | Manufactured with | Carbon Tet | |
| **Chemical Intermediate Use** | | | |
| CFC–11 and 12 | Manufactured with | Carbon Tet | |
| Vinyl chloride | Manufactured with | Carbon Tet | |
| Atrocene | Manufactured with | Carbon Tet | |
| Chlorothalonil | Manufactured with | Carbon Tet | |
| Dimethyl Tetrachloroterephthalate | Manufactured with | Carbon Tet | |
| Picloram | Manufactured with | Carbon Tet | |
| Permethrin | Manufactured with | Carbon Tet | |
| Cypermethrin | Manufactured with | Carbon Tet | |
| **Indirect Process Uses** | | | |
| Auto and airplane fuel production | Manufactured with | Carbon Tet | |
| Chlorine production | Manufactured with | Carbon Tet | |

PART 2: PARTIAL LIST OF INDUSTRIES USING MCF OR CFC–113 FOR SOLVENT CLEANING

| SIC code | SIC code translation | Containers/ Manufactured | Class I |
|---|---|---|---|
| 0030 | N/A | Manufactured | MCF |
| 0036 | N/A | Manufactured | MCF |
| 0347 | N/A | Manufactured | MCF, CFC–113 |
| 113 | N/A | Manufactured | MCF |
| 1237 | N/A | Manufactured | MCF |
| 1611 | Highway and Street Construction, Except Elevated Highways | Manufactured | MCF |
| 2037 | Frozen Fruits, Fruit Juices, and Vegetables | Manufactured | MCF |
| 2046 | Wet Corn Milling | Manufactured | MCF |
| 2051 | Bread and Other Bakery Products, Except Cookies/Crackers | Manufactured | MCF |
| 2067 | Chewing Gum | Manufactured | MCF |
| 2079 | Manufactured Ice | Manufactured | CFC–113 |
| 2082 | Malt Beverages | Manufactured | MCF |
| 2087 | Flavoring Extracts and Flavoring Syrups, NEC | Manufactured | MCF |
| 2095 | Roasted Coffee | Manufactured | MCF |
| 2099 | Food Preparations, NEC | Manufactured | MCF |
| 2111 | Cigarettes | Manufactured | MCF, CFC–113 |
| 2200 | Textile Mill Products | Manufactured | MCF |
| 2211 | Broadwoven Fabric Mills, Cotton | Manufactured | MCF |
| 2221 | Broadwoven Fabric Mills, Manmade Fiber and Silk | Manufactured | MCF |
| 2228 | N/A | Manufactured | MCF |
| 2253 | Knit Outerwear Mills | Manufactured | MCF |
| 2257 | Weft Knit Fabric Mills | Manufactured | MCF |
| 2258 | Lace and Warp Knit Fabrics | Manufactured | CFC–113 |
| 2259 | Knitting Mills, NEC | Manufactured | MCF |
| 2261 | Finishers of Broadwoven Fabrics of Cotton | Manufactured | MCF |
| 2262 | Finishers of Broadwoven Fabrics of Manmade Fiber or Silk | Manufactured | MCF |
| 2269 | Finishers of Textiles, NEC | Manufactured | MCF |
| 2273 | Carpets and Rugs | Manufactured | MCF |
| 2280 | Yarn and Thread Mills | Manufactured | MCF |

PART 2: PARTIAL LIST OF INDUSTRIES USING MCF OR CFC–113 FOR SOLVENT CLEANING—Continued

| SIC code | SIC code translation | Containers/ Manufactured | Class I |
|---|---|---|---|
| 2281 | Yarn Spinning Mills | Manufactured | MCF |
| 2282 | Yarn Texturizing, Throwing, Twisting, and Winding Mills | Manufactured | MCF |
| 2284 | Thread Mills | Manufactured | MCF |
| 2291 | Felt Goods, Except Woven Felts and Hats (Disc. 1987) | Manufactured | MCF |
| 2296 | Tire Cord and Fabrics | Manufactured | MCF |
| 2297 | Nonwoven Fabrics | Manufactured | MCF |
| 2299 | Textile Goods, NEC | Manufactured | MCF |
| 2389 | Apparel and Accessories, NEC | Manufactured | MCF |
| 2392 | Housefurnishings, Except Curtains and Draperies | Manufactured | MCF |
| 2421 | Sawmills and Planing Mills, General | Manufactured | MCF |
| 2431 | Millwork | Manufactured | MCF |
| 2436 | Softwood Veneer and Plywood | Manufactured | MCF |
| 2491 | Wood Preserving | Manufactured | MCF |
| 2499 | Wood Products, NEC | Manufactured | MCF |
| 2500 | Furniture and Fixtures | Manufactured | MCF |
| 2512 | Wood Household Furniture, Upholstered | Manufactured | MCF |
| 2514 | Metal Household Furniture | Manufactured | MCF |
| 2515 | Mattresses, Foundations, and Convertible Beds | Manufactured | MCF |
| 2521 | Wood Office Furniture | Manufactured | MCF |
| 2522 | Office Furniture, Except Wood | Manufactured | MCF |
| 2531 | Public Building and Related Furniture | Manufactured | MCF |
| 2541 | Wood Office/Store Fixtures, Partitions, Shelving, Lockers | Manufactured | MCF |
| 2542 | Office/Store Fixtures, Partitions, Shelving, Lockers | Manufactured | MCF, CFC–113 |
| 2599 | Furniture and Fixtures, NEC | Manufactured | MCF |
| 2611 | Pulp Mills | Manufactured | MCF |
| 2621 | Paper Mills | Manufactured | MCF |
| 2631 | Paperboard Mills | Manufactured | MCF |
| 2641 | Paper Coating and Glazing (Disc. 1987) | Manufactured | MCF, CFC–113 |
| 2643 | Bags, Except Textile Bags (Disc. 1987) | Manufactured | MCF |
| 2647 | Sanitary Paper Products (Disc. 1987) | Manufactured | MCF |
| 2648 | Stationary, Tablets and Related Products (Disc. 1987) | Manufactured | MCF |
| 2649 | Converted Paper and Paperboard Products, NEC (Disc. 1987) | Manufactured | MCF |
| 2653 | Corrugated and Solid Fiber Boxes | Manufactured | MCF |
| 2654 | Sanitary Food Containers (Disc. 1987) | Manufactured | MCF |
| 2655 | Fiber Cans, Tubes, Drums, and Similar Products | Manufactured | MCF, CFC–113 |
| 2658 | Sanitary Food Containers, Except Folding | Manufactured | MCF |
| 2657 | Folding Paperboard Boxes, Including Sanitary | Manufactured | MCF |
| 2661 | Building Paper and Building Board Mills (Disc. 1987) | Manufactured | MCF |
| 2671 | Packaging Paper and Plastics Film, Coated and Laminated | Manufactured | MCF |
| 2672 | Coated and Laminated Paper, NEC | Manufactured | MCF |
| 2673 | Plastics, Foil, and Coated Paper Bags | Manufactured | MCF |
| 2676 | Sanitary Paper Products | Manufactured | MCF |
| 2679 | Converted Paper and Paperboard Products, NEC | Manufactured | MCF |
| 2700 | Printing, Publishing, and Allied Industries | Manufactured | MCF |
| 2721 | Periodicals: Publishing, or Publishing and Printing | Manufactured | CFC–113 |
| 2732 | Book Printing | Manufactured | MCF |
| 2750 | Commercial Printing | Manufactured | MCF |
| 2751 | Commercial Printing, Letterpresses, and Screen (Disc. 1987) | Manufactured | MCF |
| 2752 | Commercial Printing, Lithographic | Manufactured | MCF |
| 2759 | Commercial Printing, NEC | Manufactured | MCF |
| 2761 | Manifold Business Forms | Manufactured | MCF |
| 2782 | Blankbooks, Looseleaf Binders, and Devices | Manufactured | MCF |
| 2799 | N/A | Manufactured | MCF |
| 2812 | Alkalies and Chlorine | Manufactured | MCF |
| 2813 | Industrial Gases | Manufactured | MCF |
| 2816 | Inorganic Pigments | Manufactured | MCF |
| 2818 | N/A | Manufactured | MCF |
| 2819 | Industrial Inorganic Chemicals, NEC | Manufactured | MCF, CFC–113 |
| 2821 | Plastics Materials/Synthetic Resins/Nonvulcanizable Elastomers | Manufactured | MCF, CFC–113 |
| 2822 | Synthetic Rubber (Vulcanizable Elastomers) | Manufactured | MCF, CFC–113 |
| 2824 | Manmade Organic Fibers, Except Cellulosic | Manufactured | MCF, CFC–113 |
| 2833 | Medicinal Chemicals and Botanical Products | Manufactured | MCF, CFC–113 |
| 2834 | Pharmaceutical Preparations | Manufactured | MCF, CFC–113 |
| 2836 | Biological Products, Except Diagnostic Substances | Manufactured | MCF |
| 2841 | Soap and Other Detergents, Except Specialty Cleaners | Manufactured | MCF |
| 2842 | Specialty Cleaning, Polishing, and Sanitation Preparations | Manufactured | MCF |
| 2843 | Surface Active Agents | Manufactured | MCF |
| 2844 | Perfumes, Cosmetics, and Other Toilet Preparations | Manufactured | MCF, CFC–113 |
| 2851 | Paints, Varnishes, Lacquers, Enamels, and Allied Products | Manufactured | MCF |
| 2865 | Cyclic Organic Crudes/Intermediates; Organic Dyes/Pigments | Manufactured | MCF, CFC–113 |
| 2869 | Industrial Organic Chemicals, NEC | Manufactured | MCF, CFC–113 |
| 2873 | Nitrogenous Fertilizers | Manufactured | MCF |
| 2874 | Phosphatic Fertilizers | Manufactured | MCF |
| 2879 | Pesticides and Agricultural Chemicals, NEC | Manufactured | MCF |
| 2890 | Miscellaneous Chemical Products | Manufactured | MCF |
| 2891 | Adhesives and Sealants | Manufactured | MCF |
| 2892 | Explosives | Manufactured | MCF |
| 2893 | Printing Ink | Manufactured | MCF |
| 2899 | Chemicals and Chemical Preparations, NEC | Manufactured | MCF |

PART 2: PARTIAL LIST OF INDUSTRIES USING MCF OR CFC-113 FOR SOLVENT CLEANING—Continued

| SIC code | SIC code translation | Containers/ Manufactured | Class I |
|---|---|---|---|
| 2911 | Petroleum Refining | Manufactured | MCF, CFC-113 |
| 2992 | Lubricating Oils and Greases | Manufactured | MCF |
| 3000 | Rubber and Miscellaneous Plastics Products | Manufactured | MCF |
| 3011 | Tires and Inner Tubes | Manufactured | MCF |
| 3021 | Rubber and Miscellaneous Plastics Products | Manufactured | MCF |
| 3032 | N/A | Manufactured | MCF |
| 3052 | Rubber and Plastics Hose and Belting | Manufactured | MCF, CFC-113 |
| 3053 | Gaskets, Packing, and Sealing Devices | Manufactured | MCF |
| 3061 | Molded, Extruded, and Lathe-cut Mechanical Rubber Goods | Manufactured | MCF |
| 3069 | Fabricated Rubber Products, NEC | Manufactured | MCF, CFC-113 |
| 3079 | Miscellaneous Plastic Products (Disc. 1987) | Manufactured | MCF, CFC-113 |
| 3081 | Unsupported Plastics Film and Sheet | Manufactured | MCF, CFC-113 |
| 3082 | Unsupported Plastics Profile Shapes | Manufactured | MCF |
| 3083 | Laminated Plastics Plate, Sheet, and Profile Shapes | Manufactured | MCF |
| 3086 | Plastics Foams Products | Manufactured | MCF, CFC-113 |
| 3089 | Plastics Products, NEC | Manufactured | MCF, CFC-113 |
| 3107 | N/A | Manufactured | CFC-113 |
| 3111 | Leather Tanning and Finishing | Manufactured | CFC-113 |
| 3122 | N/A | Manufactured | MCF |
| 3131 | Boot and Shoe Cut Stock and Findings | Manufactured | MCF |
| 3145 | N/A | Manufactured | MCF |
| 3161 | Luggage | Manufactured | MCF |
| 3169 | N/A | Manufactured | MCF |
| 3175 | N/A | Manufactured | MCF |
| 3211 | Flat Glass | Manufactured | MCF |
| 3221 | Glass Containers | Manufactured | MCF |
| 3226 | N/A | Manufactured | MCF |
| 3229 | Pressed and Blown Glass and Glassware, NEC | Manufactured | MCF, CFC-113 |
| 3231 | Glass Products, Made of Purchased Glass | Manufactured | MCF, CFC-113 |
| 3241 | Cement, Hydraulic | Manufactured | MCF, CFC-113 |
| 3255 | Clay Refractories | Manufactured | MCF |
| 3261 | Vitreous China Plumbing Fixtures and China and Earthenware Fittings and Bathroom Accessories | Manufactured | MCF |
| 3264 | Porcelain Electrical Supplies | Manufactured | MCF, CFC-113 |
| 3271 | Concrete Block and Brick | Manufactured | MCF |
| 3278 | N/A | Manufactured | MCF, CFC-113 |
| 3291 | Abrasive Products | Manufactured | MCF, CFC-113 |
| 3293 | Gaskets, Packing and Sealing Devices (Disc. 1987) | Manufactured | MCF |
| 3296 | Mineral Wool | Manufactured | MCF |
| 3297 | Nonclay Refractories | Manufactured | MCF, CFC-113 |
| 3299 | Nonmetallic Mineral Products, NEC | Manufactured | MCF |
| 3300 | Primary Metals Industries | Manufactured | MCF |
| 3311 | N/A | Manufactured | MCF |
| 3312 | Steel Works/Blast Furnaces (Inc. Coke Ovens)/Rolling Mills | Manufactured | MCF |
| 3313 | Electrometallurgical Products, Except Steel | Manufactured | MCF |
| 3315 | Steel Wiredrawing and Steel Nails and Spikes | Manufactured | MCF |
| 3316 | Cold-Rolled Steel Sheet, Strip, and Bars | Manufactured | MCF |
| 3317 | Steel Pipe and Tubes | Manufactured | MCF, CFC-113 |
| 3319 | N/A | Manufactured | MCF |
| 3321 | Gray and Ductile Iron Foundries | Manufactured | MCF, CFC-113 |
| 3322 | Malleable Iron Foundries | Manufactured | MCF, CFC-113 |
| 3324 | Steel Investment Foundaries | Manufactured | MCF, CFC-113 |
| 3325 | Steel Foundries, NEC | Manufactured | MCF, CFC-113 |
| 3331 | Primary Smelting and Refining of Copper | Manufactured | MCF |
| 3333 | N/A | Manufactured | MCF, CFC-113 |
| 3334 | Primary Production of Aluminum | Manufactured | MCF |
| 3339 | Primary Smelting/Refining of Nonferrous Metals (not Copper/Aluminum) | Manufactured | MCF, CFC-113 |
| 3341 | Secondary Smelting and Refining of Nonferrous Metals | Manufactured | MCF, CFC-113 |
| 3345 | Primary Smelting and Refining of Zinc (Disc. 1987) | Manufactured | MCF |
| 3351 | Rolling, Drawing, and Extruding of Copper | Manufactured | MCF |
| 3352 | N/A | Manufactured | MCF |
| 3353 | Aluminum Sheet, Plate, and Foil | Manufactured | MCF |
| 3354 | Aluminum Extruded Products | Manufactured | MCF |
| 3355 | Aluminum Rolling and Drawing, NEC | Manufactured | MCF, CFC-113 |
| 3356 | Rolling/Drawing/Extruding of Nonferrous Metals (not Copper/Aluminum) | Manufactured | MCF, CFC-113 |
| 3357 | Drawing and Insulating of Nonferrous Wire | Manufactured | MCF, CFC-113 |
| 3361 | Aluminum Foundries (Disc. 1987) | Manufactured | MCF, CFC-113 |
| 3362 | Brass/Bronze/Copper/Copper Base Alloy Foundries (Castings) (Disc. 198) | Manufactured | MCF |
| 3363 | Aluminum Die—Castings | Manufactured | MCF |
| 3364 | Nonferrous Die—Castings, Except Aluminum | Manufactured | MCF |
| 3365 | Aluminum Foundries | Manufactured | MCF, CFC-113 |
| 3366 | Copper Foundries | Manufactured | MCF, CFC-113 |
| 3369 | Nonferrous Foundries, Except Aluminum and Copper | Manufactured | MCF, CFC-113 |
| 3379 | N/A | Manufactured | MCF |
| 3380 | N/A | Manufactured | MCF |
| 3398 | Metal Heat Treating | Manufactured | MCF, CFC-113 |
| 3399 | Primary Metal Products, NEC | Manufactured | MCF, CFC-113 |
| 3400 | Fabricated Metal Products (not Machinery/Transp. Equip.) | Manufactured | MCF, CFC-113 |
| 3411 | Metal Cans | Manufactured | MCF |

PART 2: PARTIAL LIST OF INDUSTRIES USING MCF OR CFC-113 FOR SOLVENT CLEANING—Continued

| SIC code | SIC code translation | Containers/ Manufactured | Class I |
|---|---|---|---|
| 3412 | Metal Shipping Barrels, Drums, Kegs, and Pails | Manufactured | MCF, CFC-113 |
| 3417 | N/A | Manufactured | MCF, CFC-113 |
| 3419 | N/A | Manufactured | CFC-113 |
| 3421 | Cutlery | Manufactured | MCF, CFC-113 |
| 3423 | Hand and Edge Tools, Except Machine Tools and Handsaws | Manufactured | MCF, CFC-113 |
| 3425 | Saw Blades and Handsaws | Manufactured | MCF |
| 3429 | Hardware, NEC | Manufactured | MCF, CFC-113 |
| 3430 | Heating Equipment (not Electric and Warm Air)/Plumbing Fix | Manufactured | CFC-113 |
| 3431 | Enameled Iron and Metal Sanitary Ware | Manufactured | MCF |
| 3432 | Plumbing Fixture Fittings and Trim | Manufactured | MCF, CFC-113 |
| 3433 | Heating Equipment (not Electric and Warm Air Furnaces) | Manufactured | MCF, CFC-113 |
| 3440 | Fabricated Structural Metal Products | Manufactured | MCF, CFC-113 |
| 3441 | Fabricated Structural Metal | Manufactured | MCF, CFC-113 |
| 3442 | Metal Doors, Sash, Frames, Molding, and Trim | Manufactured | MCF, CFC-113 |
| 3443 | Fabricated Plate Work (Boiler Shops) | Manufactured | MCF, CFC-113 |
| 3444 | Sheet Metal Work | Manufactured | MCF, CFC-113 |
| 3446 | Architectural and Ornamental Metal Work | Manufactured | MCF |
| 3448 | Prefabricated Metal Buildings and Components | Manufactured | MCF |
| 3449 | Miscellaneous Structural Metal Work | Manufactured | MCF, CFC-113 |
| 3450 | Screw Machine Prods. and Bolts/Nuts/Screws/Rivets/Washers | Manufactured | CFC-113 |
| 3451 | Screw Machine Products | Manufactured | MCF, CFC-113 |
| 3452 | Bolts, Nuts, Screws, Rivets, and Washers | Manufactured | MCF, CFC-113 |
| 3458 | N/A | Manufactured | MCF |
| 3462 | Iron and Steel Forgings | Manufactured | MCF, CFC-113 |
| 3463 | Nonferrous Forgings | Manufactured | MCF, CFC-113 |
| 3465 | Automotive Stampings | Manufactured | MCF |
| 3469 | Metal Stampings, NEC | Manufactured | MCF, CFC-113 |
| 3470 | Coating, Engraving, and Allied Services | Manufactured | MCF, CFC-113 |
| 3471 | Electroplating, Plating, Polishing, Anodizing, Coloring | Manufactured | MCF, CFC-113 |
| 3478 | N/A | Manufactured | MCF |
| 3479 | Coatings, Engraving, and Allied Services, NEC | Manufactured | MCF, CFC-113 |
| 347A | N/A | Manufactured | MCF |
| 3480 | Ordnance and Accessories (not Vehicles and Guided Missiles) | Manufactured | MCF |
| 3482 | Small Arms Ammunition | Manufactured | MCF |
| 3483 | Ammunition, Except for Small Arms | Manufactured | MCF, CFC-113 |
| 3484 | Small Arms | Manufactured | MCF, CFC-113 |
| 3489 | Ordnance and Accessories, NEC | Manufactured | MCF, CFC-113 |
| 3490 | Miscellaneous Fabricated Metal Products | Manufactured | MCF, CFC-113 |
| 3491 | Industrial Valves | Manufactured | MCF |
| 3492 | Fluid Power Valves and Hose Fittings | Manufactured | MCF |
| 3494 | Valves and Pipe Fittings, NEC | Manufactured | MCF, CFC-113 |
| 3495 | Wire Springs | Manufactured | MCF, CFC-113 |
| 3496 | Miscellaneous Fabricated Wire Products | Manufactured | MCF, CFC-113 |
| 3497 | Metal Foil and Leaf | Manufactured | MCF, CFC-113 |
| 3498 | Fabricated Pipe and Pipe Fittings | Manufactured | MCF, CFC-113 |
| 3499 | Fabricated Metal Products, NEC | Manufactured | MCF, CFC-113 |
| 3501 | N/A | Manufactured | MCF, CFC-113 |
| 3511 | Steam/Gas/Hydraulic Turbines; Turbine Generator Set Units | Manufactured | CFC-113 |
| 3519 | Internal Combustion Engines, NEC | Manufactured | MCF, CFC-113 |
| 3523 | Farm Machinery and Equipment | Manufactured | MCF |
| 3524 | Lawn and Garden Tractors and Home Lawn and Garden Equipment | Manufactured | MCF, CFC-113 |
| 3531 | Construction Machinery and Equipment | Manufactured | MCF, CFC-113 |
| 3532 | Mining Machinery/Equipment (not Oil and Gas Field Equip.) | Manufactured | MCF, CFC-113 |
| 3533 | Oil and Gas Field Machinery and Equipment | Manufactured | MCF, CFC-113 |
| 3534 | Elevators and Moving Stairways | Manufactured | MCF |
| 3536 | Overhead Traveling Cranes, Hoists, and Monorail Systems | Manufactured | MCF |
| 3537 | Industrial Trucks, Tractors, Trailers, and Stackers | Manufactured | MCF, CFC-113 |
| 3540 | Metalworking Machinery and Equipment | Manufactured | MCF |
| 3541 | Machine Tools, Metal Cutting Types | Manufactured | MCF, CFC-113 |
| 3542 | Machine Tools, Metal Forming Types | Manufactured | MCF |
| 3544 | Special Dies/Tools, Die Sets, Jigs/Fixtures, Industrial Molds | Manufactured | MCF, CFC-113 |
| 3545 | Cutting Tools, Machine Tool Accessories, and Machinists' Precision Measuring Devices | Manufactured | MCF, CFC-113 |
| 3546 | Power-Driven Handtools | Manufactured | MCF |
| 3547 | Rolling Mill Machinery and Equipment | Manufactured | MCF |
| 3549 | Metalworking Machinery, NEC | Manufactured | MCF, CFC-113 |
| 3551 | Food and Products Machinery (Disc. 1987) | Manufactured | MCF |
| 3553 | Woodworking Machinery | Manufactured | MCF |
| 3554 | Paper Industries Machinery | Manufactured | MCF |
| 3555 | Printing Trades Machinery and Equipment | Manufactured | MCF |
| 3556 | Food Products Machinery | Manufactured | MCF |
| 3559 | Special Industry Machinery, NEC | Manufactured | MCF, CFC-113 |
| 3560 | General Industrial Machinery and Equipment | Manufactured | MCF, CFC-113 |
| 3561 | Pumps and Pumping Equipment | Manufactured | MCF, CFC-113 |
| 3562 | Ball and Roller Bearings | Manufactured | MCF, CFC-113 |
| 3563 | Air and Gas Compressors | Manufactured | MCF |
| 3564 | Industrial and Commercial Fans/Blowers/Air Purification Equip. | Manufactured | MCF |
| 3565 | Packaging Machinery | Manufactured | MCF |
| 3566 | Speed Changers, Industrial High-Speed Drives, and Gears | Manufactured | MCF |

PART 2: PARTIAL LIST OF INDUSTRIES USING MCF OR CFC–113 FOR SOLVENT CLEANING—Continued

| SIC code | SIC code translation | Containers/ Manufactured | Class I |
|---|---|---|---|
| 3567 | Industrial Process Furnaces and Ovens | Manufactured | MCF, CFC–113 |
| 3568 | Mechanical Power Transmission Equipment, NEC | Manufactured | MCF, CFC–113 |
| 3569 | General Industrial Machinery and Equipment, NEC | Manufactured | MCF, CFC–113 |
| 3571 | Electronic Computers | Manufactured | MCF, CFC–113 |
| 3572 | Computer Storage Devices | Manufactured | MCF, CFC–113 |
| 3573 | Electronic Computing Equipment (Disc. 1987) | Manufactured | MCF, CFC–113 |
| 3575 | Computer Terminals | Manufactured | CFC–113 |
| 3577 | Computer Peripheral Equipment, NEC | Manufactured | MCF, CFC–113 |
| 3578 | Calculating/Accounting Machines (not Electronic Computers) | Manufactured | MCF, CFC–113 |
| 3579 | Office Machines, NEC | Manufactured | MCF, CFC–113 |
| 3580 | Refrigeration and Service Industry Machinery | Manufactured | MCF |
| 3581 | Automatic Vending Machines | Manufactured | MCF, CFC–113 |
| 3582 | Commercial Laundry, Drycleaning, and Pressing Machines | Manufactured | MCF |
| 3585 | Air-Conditioning and Warm Air Heating Equipment and Commercial and Industrial Refrigeration Equipment. | Mafactured | MCF, CFC–113 |
| 3586 | Measuring and Dispensing Pumps | Manufactured | MCF, CFC–113 |
| 3589 | Service Industry Machinery, Not Elsewhere Classified | Manufactured | MCF |
| 3592 | Carburetors, Pistons, Piston Rings, and Valves | Manufactured | MCF, CFC–113 |
| 3593 | Fluid Power Cylinders and Actuators | Manufactured | MCF, CFC–113 |
| 3596 | Scales and Balances | Manufactured | CFC–113 |
| 3599 | Industrial and Commercial Machinery and Equipment, NEC | Manufactured | MCF, CFC–113 |
| 3600 | Electronic and Other Electrical Equipment and Components, Except Computer Equipment | Manufactured | MCF, CFC–113 |
| 3612 | Power, Distribution, and Specialty Transformers | Manufactured | MCF, CFC–113 |
| 3613 | Switchgear and Switchboard Apparatus | Manufactured | MCF, CFC–113 |
| 3621 | Motors and Generators | Manufactured | MCF, CFC–113 |
| 3622 | Industrial Controls (Disc. 1987) | Manufactured | MCF, CFC–113 |
| 3623 | Welding Apparatus, Electric (disc. 1987) | Manufactured | MCF |
| 3624 | Carbon and Graphite Products | Manufactured | MCF |
| 3625 | Relays and Industrial Controls | Manufactured | MCF, CFC–113 |
| 3629 | Electrical Industrial Apparatus, NEC | Manufactured | MCF, CFC–113 |
| 3630 | Household Appliances | Manufactured | MCF |
| 3631 | Household Cooking Equipment | Manufactured | MCF, CFC–113 |
| 3632 | Household Refrigerators and Home and Farm Freezers | Manufactured | MCF, CFC–113 |
| 3633 | Household Laundry Equipment | Manufactured | MCF, CFC–113 |
| 3634 | Electric Housewares and Fans | Manufactured | MCF |
| 3635 | Household Vacuum Cleaners | Manufactured | MCF |
| 3636 | Sewing Machines (Disc. 1987) | Manufactured | MCF |
| 3639 | Household Appliances, NEC | Manufactured | MCF, CFC–113 |
| 3641 | Electric Lamp Bulbs and Tubes | Manufactured | MCF, CFC–113 |
| 3643 | Current-Carrying Wiring Devices | Manufactured | MCF, CFC–113 |
| 3644 | Noncurrent-Carrying Wiring Devices | Manufactured | MCF, CFC–113 |
| 3645 | Residential Electrical Lighting Fixtures | Manufactured | MCF |
| 3646 | Commercial/Industrial/Institutional Electric Lighting Fix. | Manufactured | MCF |
| 3647 | Vehicular Lighting Equipment | Manufactured | MCF, CFC–113 |
| 3648 | Lighting Equipment, NEC | Manufactured | MCF |
| 3651 | Household Audio and Video Equipment | Manufactured | MCF, CFC–113 |
| 3652 | Phonograph Records and Prerecorded Autio Tapes and disks | Manufactured | MCF |
| 3657 | N/A | Manufactured | MCF |
| 3661 | Telephone and Telegraph Apparatus | Manufactured | MCF, CFC–113 |
| 3662 | Radio and Telecommunications Equipment | Manufactured | MCF, CFC–113 |
| 3663 | Radio and Television Broadcasting and Communication Equip | Manufactured | MCF, CFC–113 |
| 3665 | N/A | Manufactured | CFC–113 |
| 3669 | Communications Equipment, NEC | Manufactured | MCF, CFC–113 |
| 3670 | Electronic Components and Accessories | Manufactured | MCF, CFC–113 |
| 3671 | Electron Tubes | Manufactured | MCF, CFC–113 |
| 3672 | Printed Circuit Boards | Manufactured | MCF, CFC–113 |
| 3673 | Transmitting/Industrial/Special Purpose Electron tubes (Disc. 1987) | Manufactured | MCF, CFC–113 |
| 3674 | Semiconductors and Related Devices | Manufactured | MCF, CFC–113 |
| 3675 | Electronic Capacitors | Manufactured | MCF, CFC–113 |
| 3676 | Electronic Resistors | Manufactured | MCF, CFC–113 |
| 3677 | Electronic Coils, Transformers, and Other Industros | Manufactured | MCF, CFC–113 |
| 3678 | Electronic Connectors | Manufactured | MCF, CFC–113 |
| 3679 | Electronic Components, NEC | Manufactured | MCF, CFC–113 |
| 3691 | Storage Batteries | Manufactured | MCF, CFC–113 |
| 3692 | Primary Batteries, Dry and Wet | Manufactured | MCF, CFC–113 |
| 3693 | RadiographicX-Ray, Fluoroscopic X-Ray, Therapeutic X-Ray, and Other X-Ray Apparatus and Tubes; Electromedical and Electrotherapeutic Apparatus (Dis. 1987). | Manufactured | MCF, CFC–113 |
| 3694 | Electrical Equipment for Internal Combustion Engines | Manufactured | MCF, CFC–113 |
| 3695 | Magnetic and Optical Recording Media | Manufactured | CFC–113 |
| 3697 | N/A | Manufactured | MCF, CFC–113 |
| 3698 | N/A | Manufactured | MCF, CFC–113 |
| 3699 | Electrical Machinery, Equipment, and Supplies, NEC | Manufactured | MCF, CFC–113 |
| 3700 | Transportation Equipment | Manufactured | MCF, CFC–113 |
| 3710 | Motor Vehicles and Motor Vehicle Equipment | Manufactured | MCF |
| 3711 | Motor Vehicles and Passenger Car Bodies | Manufactured | MCF, CFC–113 |
| 3713 | Truck and Bus Bodies | Manufactured | MCF, CFC–113 |
| 3714 | Motor Vehicle Parts and Accessories | Manufactured | MCF, CFC–113 |
| 3715 | Truck Trailers | Manufactured | MCF |
| 3716 | Motor Homes | Manufactured | MCF |

PART 2: PARTIAL LIST OF INDUSTRIES USING MCF OR CFC–113 FOR SOLVENT CLEANING—Continued

| SIC code | SIC code translation | Containers/ Manufactured | Class I |
|---|---|---|---|
| 3717 | N/A | Manufactured | CFC–113 |
| 3720 | Aircraft and Parts | Manufactured | MCF, CFC–113 |
| 3721 | Aircraft | Manufactured | MCF, CFC–113 |
| 3722 | N/A | Manufactured | MCF |
| 3724 | Aircraft Engines and Engine Parts | Manufactured | MCF, CFC–113 |
| 3728 | Aircraft Parts and Auxiliary Equipment, NEC | Manufactured | MCF, CFC–113 |
| 3730 | Ship and Boat Building and Repairing | Manufactured | MCF |
| 3731 | Ship Building and Repairing | Manufactured | MCF, CFC–113 |
| 3732 | Boat Building and Repairing | Manufactured | MCF |
| 3741 | N/A | Manufactured | MCF |
| 3743 | Railroad Equipment | Manufactured | MCF |
| 3751 | Motorcycles, Bicycles, and Parts | Manufactured | MCF |
| 3761 | Guided Missles and Space Vehicles | Manufactured | MCF, CFC–113 |
| 3764 | Guided Missle/Space Vehicle Propulsion Units/Parts | Manufactured | MCF, CFC–113 |
| 3769 | Guided Missle/Space Vehicle Parts/Auxiliary Equip., NEC | Manufactured | MCF, CFC–113 |
| 3771 | N/A | Manufactured | MCF |
| 3792 | Travel Trailers and Campers | Manufactured | MCF |
| 3795 | Tanks and Tank Components | Manufactured | MCF, CFC–113 |
| 3799 | Transportation Equipment, NEC | Manufactured | MCF |
| 3811 | Engineering, Laboratory, Scientific and Research Instruments and Associated Equipment (Disc. 1987). | Manufactured | MCF, CFC–113 |
| 3812 | Search, Detection, Navigation, Guidance, Aeronautical and Nautical Systems and Instruments. | Manufactured | MCF, CFC–113 |
| 3815 | N/A | Manufactured | CFC–113 |
| 3821 | Laboratory Apparatus and Furniture | Manufactured | MCF |
| 3822 | Automatic Controls For Regulating Residential and Commercial Environments and Appliances. | Manufactured | MCF, CFC–113 |
| 3823 | Industrial Instruments for Measurement, Display, and Control of Process Variables; and Related Products. | Manufactured | MCF, CFC–113 |
| 3824 | Totalizing Fluid Meters and Counting Devices | Manufactured | MCF, CFC–113 |
| 3825 | Instruments for Measunng/Testing Electricity/Electrical Signals | Manufactured | MCF, CFC–113 |
| 3826 | Laboratory Analytical Instruments | Manufactured | MCF |
| 3827 | Optical Instruments and Lenses | Manufactured | MCF |
| 3829 | Measuring and Controlling Devices, NEC | Manufactured | MCF, CFC–113 |
| 3830 | Optical Instruments and Lenses (Disc. 1987) | Manufactured | MCF |
| 3831 | N/A | Manufactured | MCF |
| 3832 | Optical Instruments and Lenses (Disc. 1987) | Manufactured | MCF |
| 3841 | Surgical and Medical Instruments and Apparatus | Manufactured | MCF, CFC–113 |
| 3842 | Orthopedic, Prosthetic, and Surgical Appliances/Supplies | Manufactured | MCF, CFC–113 |
| 3843 | Dental Equipment and Supplies | Manufactured | MCF, CFC–113 |
| 3844 | X-Ray Apparatus and Tubes and Related Irradiation Apparatus | Manufactured | MCF |
| 3845 | Electromedical and Electro-therapeutic Apparatus | Manufactured | CFC–113 |
| 3851 | Opthalmic Goods | Manufactured | MCF, CFC–113 |
| 3855 | N/A | Manufactured | MCF |
| 3861 | Photographic Equipment and Supplies | Manufactured | MCF, CFC–113 |
| 3873 | Watches, Clocks, Clockwork Operated Devices, and Parts | Manufactured | MCF, CFC–113 |
| 3900 | Miscellaneous Manufacturing Industries | Manufactured | MCF |
| 3911 | Jewelry, Precious Metal | Manufactured | MCF, CFC–113 |
| 3914 | Silverware, Plated Ware, and Stainless Steel Ware | Manufactured | MCF |
| 3915 | Jewelers' Findings and Materials, and Lapidary Work | Manufactured | MCF, CFC–113 |
| 3931 | Musical Instruments | Manufactured | MCF |
| 3934 | N/A | Manufactured | MCF |
| 3940 | Dolls, Toys, Games, and Sporting and Athletic Goods | Manufactured | MCF |
| 3944 | Games, Toys, and Children's Vehicles (not Dolls/Bicycles) | Manufactured | MCF |
| 3947 | N/A | Manufactured | MCF |
| 3949 | Sporting and Athletic Goods, NEC | Manufactured | MCF, CFC–113 |
| 3951 | Pens, Mechanical Pencils, and Parts | Manufactured | MCF, CFC–113 |
| 3953 | Marking Devices | Manufactured | MCF |
| 3955 | Carbon Paper and Inked Ribbons | Manufactured | MCF, CFC–113 |
| 3961 | Costume Jewelry and Costume Novelities (not Precious Metal) | Manufactured | MCF, CFC–113 |
| 3963 | Buttons (Disc. 1987) | Manufactured | CFC–113 |
| 3964 | Needles/Pins/Hooks/Eyes and Similar Notions (Disc 1987) | Manufactured | MCF, CFC–113 |
| 3965 | Fasteners, Buttons, Needles, and Pins | Manufactured | MCF |
| 3973 | N/A | Manufactured | MCF, CFC–113 |
| 3991 | Brooms and Brushes | Manufactured | MCF |
| 3993 | Signs and Advertising Specialties | Manufactured | MCF, CFC–113 |
| 3995 | Burial Caskets | Manufactured | MCF, CFC–113 |
| 3996 | Linoleum/Asphalt—Felt—Base/Other Hard Surface Floor Cover NEC | Manufactured | MCF |
| 3999 | Manufacturing Industries, NEC | Manufactured | MCF, CFC–113 |
| 4661 | N/A | Manufactured | MCF, CFC–113 |
| 4911 | Electric Services | Manufactured | MCF |
| 4953 | Refuse Systems | Manufactured | MCF |
| 4961 | Steam and Air Condition Supply | Manufactured | MCF |
| 5051 | Metals Service Centers and Offices | Manufactured | MCF |
| 5065 | Electronic Parts and Equipment, NEC | Manufactured | MCF |
| 5169 | Chemicals and Allied Products, NEC | Manufactured | MCF |
| 7371 | Computer Programming Services | Manufactured | MCF, CFC–113 |
| 7372 | Prepackage Software | Manufactured | MCF, CFC–113 |
| 7378 | Computer Maintenance and Repair | Manufactured | CFC–113 |

PART 2: PARTIAL LIST OF INDUSTRIES USING MCF OR CFC–113 FOR SOLVENT CLEANING—Continued

| SIC code | SIC code translation | Containers/ Manufactured | Class I |
|---|---|---|---|
| 7389 | Business Services, NEC | Manufactured | MCF |
| 7391 | N/A | Manufactured | MCF |
| 7397 | N/A | Manufactured | CFC–113 |
| 7629 | Electrical and Electronic Repair Shops, NEC | Manufactured | MCF, CFC–113 |
| 7812 | Motion Picture and Video Tape Production | Manufactured | MCF |
| 8711 | Engineering Services | Manufactured | MCF |
| 8731 | Commercial Physical and Biological Research | Manufactured | MCF |
| 8734 | Testing Laboratories | Manufactured | MCF |
| 8911 | N/A | Manufactured | MCF, CFC–113 |
| 9661 | Space Research and Technology | Manufactured | CFC–113 |
| 9711 | National Security | Manufactured | MCF, CFC–113 |

N/A=indicates SIC code reported in the TRI database, but not listed in the database code book.
NEC=Not Elseware Classified.
(Disc. 1987)=indicates that this SIC code was discontinued in the 1987 Census of Manufactures.
This list of SIC codes was compiled from information in the Toxic Release Inventory (TRI). The SIC codes represent industries in which one or more companies use more than 10,000 lbs of MCF or CFC–113 for an ancillary or other use. While the "ancilary or other use" category should include primarily companies that use MCF or CFC–113 in a solvent cleaning application, it is possible that the companies use the chemical for another use such as a solvent for an adhesive or coating. It is also possible that companies using MCF or CFC–113 for solvent cleaning reported under a different use category. Companies report SIC codes and chemical use independently, and may report more than one SIC code. Therefore, it is possible that a company does not use the MCF or CFC–113 in operations under each of the SIC codes.

Title 40, Code of Federal Regulations, part 82, is amended to read as follows:

## PART 82—PROTECTION OF STRATOSPHERIC OZONE

1. The authority citation for part 82 continues to read as follows:

**Authority:** 42 U.S.C. 7671–7671(q).

2. A new subpart E is added to the proposed revision of part 82 (56 FR 43842, September 4, 1991) to read as follows:

### Subpart E—Labeling of Products Using Ozone Depleting Substances

Sec.
82.100 Purpose.
82.102 Applicability.
82.104 Definitions.
82.106 Warning label requirements.
82.108 Placement of warning label.
82.110 Form of warning label.
82.112 Removal of warning label.
82.114 Compliance by manufacturers using components.
82.116 Compliance by wholesalers, distributors and retailers.
82.118 Petitions.
82.120 Recoverable substances label.
82.122 Prohibitions.

### Subpart E—Labeling of Products Using Ozone Depleting Substances

#### § 82.100 Purpose.

The purpose of this subpart is:

(a) To require warning labels on containers of and products containing or manufactured with certain ozone-depleting substances, pursuant to § 611 of the Clean Air Act, as amended; and

(b) To require permanent labels on products containing ozone-depleting substances that can be recovered or recycled, pursuant to section 608 of the Clean Air Act, as amended.

#### § 82.102 Applicability.

(a) On May 15, 1993, the requirements of this subpart shall apply to the following containers and products:

(1) All containers in which a class I or class II substance is stored or transported.

(2) All products containing a class I substance.

(3) All products manufactured with a process that uses a class I substance, unless the Administrator determines for a particular product that there are no substitute products or manufacturing processes for such product that do not rely on the use of a class I substance, that reduce overall risk to human health and the environment, and that are currently or potentially available. If the Administrator makes such a determination for a particular product then the requirements of this subpart are effective for such product no later than January 1, 2015.

(b) On January 1, 2015 in any case, or any time between May 15, 1993 and January 1, 2015 that the Administrator determines for a particular product that there are substitute products or manufacturing processes for such product that do not rely on the use of a class I or class II substance, that reduce the overall risk to human health and the environment, and that are currently or potentially available, the requirements of this subpart shall apply to the following:

(1) All products containing a class II substance.

(2) All products manufactured with a process that uses a class II substance.

(c) On May 15, 1993, the requirements of this subpart shall apply to all products containing a recoverable class I or recoverable class II substance.

#### § 82.104 Definitions.

(a) *Class I substance* means any substance designated as class I in the **Federal Register** notice of January 22, 1991 (56 FR 2420) including chlorofluorocarbons, halons, carbon tetrachloride and methyl chloroform and any other substance so designated by the Agency at a later date.

(b) *Class II substance* means any substance designated as class II in the **Federal Register** notice of January 22, 1991 (56 FR 2420) including hydrochlorofluorocarbons and any other substance so designated by the Agency at a later date.

(c) *Container* means the immediate vessel in which a controlled substance is stored or transported.

(d) *Containing or Contains* means that a controlled substance is physically held within the structure of the product at the point of sale to the ultimate consumer.

(e) *Controlled substance* means a class I or class II ozone-depleting substance.

(f) *Manufactured with* means that a controlled substance is used in the product's manufacturing process, including the manufacture of any component parts, but the product does not contain the controlled substance at the point of sale to the ultimate consumer. Excluded from the meaning of the phrase "manufactured with" are situations:

(1) Where a product has not had physical contact with the controlled substance, or

(2) Where the controlled substance has been transformed.

(g) *Potentially available* means that adequate information exists to make a determination that the substitute is technologically feasible,

environmentally acceptable and economically viable.

(h) *Principal display panel (PDP)* means the entire portion of the immediate surface of a product, container or its outer packaging that is most likely to be displayed, shown, presented, or examined under customary conditions of retail sale. The area of the PDP is not limited to the portion of the surface covered with existing labeling; rather it includes the entire surface, excluding flanges, shoulders, handles, or necks. For the purposes of determining the proper type size for the warning statement, the area of the PDP is to be computed as follows:

(1) In the case of a square or rectangular product or container, where one entire side is the PDP, the product of the height multiplied by the width of that side shall be the area of the PDP.

(2) In the case of a cylindrical or nearly cylindrical product or container on which the PDP appears on the side, the area of the PDP shall be 40 percent of the product of the height of the container multiplied by its circumference.

(3) In the case of any other shape of product or container, the area of the PDP shall be 40 percent of the total surface of the product or container, excluding flanges, shoulders, handles, or necks. However, if such a product or container presents an obvious PDP (such as an oval or hour-glass shaped area on the side of a container) the area to be measured shall be the entire area of the obvious PDP.

(i) *Product* means an item or category of items manufactured from raw or recycled materials which is used to perform a function or task.

(j) *Recoverable substance* means a controlled substance contained within:

(1) Refrigerating products, including refrigerators, freezers, chillers, dehumidifiers, water coolers, ice machines, air conditioning and heat pump units or

(2) Fire extinguishers.

(k) *Supplemental printed material* means any informational or promotional material (including written advertisements, brochures, circulars, package inserts, desk references, fact sheets, material safety data sheets, and procurement and specification sheets) that is prepared by the manufacturer for display or distribution concerning a product or container, or accompanying such product or container in interstate commerce.

(l) *Transform* means to use and entirely consume a controlled substance by changing it into one or more substances that are not subject to this subpart in the manufacturing process of a product or chemical.

(m) *Type size* means the actual height of the printed image of each capital letter as it appears on a label.

(n) *Ultimate consumer* means the first commercial or noncommercial purchaser of a container or product that is not intended for reintroduction into interstate commerce as a final product or as part of another product.

(o) *Warning label* means the warning statement required by § 611 of the Act and symbol as described in § 82.106.

**§ 82.106 Warning label requirements.**

(a) *Required warning statements.* Each container or product identified in § 82.102 (a) or (b) shall bear the following warning statement, meeting the requirements of this subpart for placement and form:

**Warning:** Contains [or Manufactured with, if applicable] [*insert name of substance*], a substance which harms public health and environment by destroying ozone in the upper atmosphere.

(b) *Interference with other required labeling information.* The warning statement shall not interfere with, detract from, or mar any labeling information required to be on the PDP by federal or state law.

**§ 82.108 Placement of warning label.**

The warning label shall be placed so as to satisfy the requirement of the Act that the warning label be "clearly legible and conspicuous." The warning Label is clearly legible and conspicuous if it appears with such prominence and conspicuousness as to render it likely to be read and understood by consumers under normal conditions of purchase. Such placement includes, but is not limited to, the following:

(a) *Display panel placement.* For any affected product or container that has a display panel that is normally viewed by the purchaser at the time of the purchase decision, the warning label described in § 82.106 shall appear on any such display panel of the affected product or container such that it is "clearly legible and conspicuous" at the time of the purchase decision. If the warning label described in § 82.106 appears on the principal display panel of any such affected product or container, the warning label shall qualify as "clearly legible and conspicuous," as long as the label also fulfills all other requirements of this subpart and is not obscured by any outer packaging as required by § 82.108(b).

(b) *Outer packaging.* For any affected product or container that is normally packaged, wrapped, or otherwise covered when viewed by the purchaser at the time of the purchase decision, the warning label described in § 82.106 shall appear on any outer packaging, wrapping or other covering used in the retail display of the product or container, such that the warning label is clearly legible and conspicuous at the time of the purchase decision. If the outer packaging has a display panel that is normally viewed by the purchaser at the time of the purchase decision, the warning label shall appear on such display panel. If the warning label so appears on such product's or container's outer packaging, it need not appear on the surface of the product or container, as long as the label also fulfills all other requirements of this subpart. The warning label need not appear on such outer packaging if either:

(1) The warning statement appears on the surface of the product or container, consistent with paragraph (a) of this section, and is clearly legible and conspicuous through any outer packaging, wrapping or other covering used in retail display; or

(2) The warning statement is placed in a manner consistent with paragraph (c) of this section.

(c) *Alternative placement.* The warning label may be placed on a hang tag, tape, card, sticker, or similar overlabeling that is securely attached to the container, product, outer packaging or display case. In any case, the warning label must be clearly legible and conspicuous under customary conditions of retail sale at the time of the purchase decision.

(d) *Supplemental printed material.* Any manufacturer who prepares supplemental printed material for display or distribution concerning a product or container, or to accompany such a product or container in interstate commerce, may clearly and conspicuously include the warning label in such printed material so that it is provided to consumers at the time of the purchase decision.

**§ 82.110 Form of warning label.**

(a) *Conspicuousness and contrast.* (1) The warning label shall appear in conspicuous and legible type by typography, layout, and color with other printed matter on the label.

(2) The warning label shall appear in sharp contrast to any background upon which it appears. Examples of combinations of colors which may not satisfy the proposed requirement for sharp contrast are: black letters on a dark blue or dark green background, dark red letters on a light red background, light red letters on a

reflective silver background, and white letters on a light gray or tan background.

(b) *Name of substance.* The name of the controlled substance to be inserted into the warning statement shall be the standard chemical name of the substance as listed in the **Federal Register** notice of January 22, 1991 (56 FR 2420), except that:

(1) The acronym "CFC" may be substituted for "chlorofluorocarbon."

(2) The acronym "HCFC" may be substituted for "hydrochlorofluorocarbon."

(3) The term "1,1,1-trichloroethane" may be substituted for "methyl chloroform."

(c) *Combined statement for multiple controlled substances.* If a container or product contains or is manufactured with more than one controlled substance, the warning statement may include the names of all of the substances in a single warning statement, provided that the combined statement accurately reflects and clearly distinguishes which substances the container or product contains and which were used in the manufacturing process.

(d) *Format.* (1) The warning statement and symbol shall be blocked together within a square or rectangular area, with or without a border.

(2) The warning label shall appear in lines that are generally parallel to any base on which the product or container rests as it is designed to be displayed for sale.

(e) *Type style.* (1) The ratio of the height of a capital letter to its width shall be such that the height of the letter is no more than 3 times its width.

(2) The signal word "WARNING" shall appear in all capital letters.

(f) *Type size.* The warning statement shall appear at least as large as the type sizes prescribed by this paragraph. The type size refers to the height of the capital letters. A larger type size materially enhances the legibility of the statement and is desirable.

(1) PDP or outer packaging. Minimum type size requirements for the warning statement are given in Table 1 and are based upon the area of the PDP of the product or container. Where the statement is on outer packaging, as well as the PDP, the statement shall appear in the same minimum type size as on the PDP.

TABLE 1

| Area of PDP (sq.in.) | 0–2 | >2–5 | >5–10 | >10–15 | >15–30 | >30 |
|---|---|---|---|---|---|---|
| *Type size (in.)*:* | | | | | | |
| Signal word | 3/64 | 1/16 | 3/32 | 7/64 | 1/8 | 5/32 |
| Statement | 3/64 | 3/64 | 1/16 | 3/32 | 3/32 | 7/64 |

> means greater than.
* minimum height of printed image of letters.

(2) Alternative placement. The minimum type size for the warning statement on any alternative placement which meets the requirements of § 82.108(c) is 3/32 inches for the signal word and 1/16 of an inch for the statement.

(3) Supplemental printed material. The minimum type size for the warning statement on supplemental printed material is 3/32 inches for the signal word and 1/16 of an inch for the statement, or the type size of any surrounding text, whichever is larger.

**§ 82.112 Removal of warning label.**

(a) *Prohibition on removal.* Except as described in paragraph (b) of this section, any warning label that accompanies a product or container introduced into interstate commerce, as required by this subpart, must remain with the product or container and any product incorporating such product or container, up to and including the point of sale to the ultimate consumer.

(b) *Incorporation of label by subsequent manufacturers.* A manufacturer of a product that incorporates a product or container that is accompanied by a warning label may remove such warning labels from the incorporated product or container if the information on such warning label is incorporated into a warning label accompanying the manufacturer's product.

**§ 82.114 Compliance by manufacturers using components.**

(a) *Requirement of compliance by manufacturers using components.* Each manufacturer of a product incorporating a component product or container to which this subpart applies that is purchased or obtained from another manufacturer or supplier is required to pass through and incorporate the labeling information that accompanies such incorporated component in a warning label accompanying the manufacturer's finished product.

(b) *Reliance on reasonable belief.* The manufacturer of a product that incorporates a component purchased or obtained from another manufacturer or supplier may rely on the labeling information that it receives with the component, and is not required to independently investigate whether the requirements of this subpart are applicable to the component, as long as the manufacturer reasonably believes that the supplier of the component is reliably and accurately complying with the requirements of this subpart.

(c) *Contractual obligations.* A manufacturer's contractual relationship with its supplier under which the supplier is required to accurately label, consistent with the requirements of this subpart, any products manufactured with a controlled substance that are supplied to the manufacturer, is evidence of reasonable belief.

**§ 82.116 Compliance by wholesalers, distributors and retailers.**

(a) *Requirement of compliance by wholesalers, distributors and retailers.* All wholesalers, distributors and retailers of products or containers to which this subpart applies are required to pass through the labeling information that accompanies the product.

(b) *Reliance on reasonable belief.* The wholesaler, distributor or retailer of a product may rely on the labeling information that it receives with the product or container, and is not required to independently investigate whether the requirements of this subpart are applicable to the product or container, as long as the wholesaler, distributor or retailer reasonably believes that the supplier of the product or container is reliably and accurately complying with the requirements of this subpart.

(c) *Contractual obligations.* A wholesaler, distributor or retailer's contractual relationship with its supplier under which the supplier is required to accurately label, consistent with the requirements of this subpart, any products manufactured with a controlled substance that are supplied to the wholesaler, distributor or retailer is evidence of reasonable belief.

**§ 82.118 Petitions.**

(a) *Requirements for procedure and timing.* Persons seeking to apply the requirements of this regulation to a product containing a class II substance or a product manufactured with a class I or a class II substance which is not otherwise subject to the requirements or to temporarily exempt a product manufactured with a class I substance from the requirements of this regulation may submit petitions after May 15, 1992 to: Labeling Program Manager, Global Change Division, Office of Atmospheric and Indoor Air Programs, U.S. Environmental Protection Agency, ANR-445, 401 M Street, SW., Washington, DC 20460.

(b) *Requirement for adequate data.* Any petition submitted under paragraph (a) of this section shall be accompanied by adequate data, as defined in § 82.118(c). If adequate data are not included by the petitioner, the Agency may return the petition and request specific additional information.

(c) *Adequate data.* A petition shall be considered by the Agency to be supported by adequate data if it includes all of the following:

(1) A part clearly labeled "Section I.A." which contains the petitioner's full name, company or organization name, address and telephone number, the product that is the subject of the petition, and, in the case of a petition to temporarily exempt a product manufactured with a class I substance from the labeling requirement, the manufacturer or manufacturers of that product.

(2) For petitions to temporarily exempt a product manufactured with a class I substance only, a part clearly labeled "Section I.A.T." which states the length of time for which an exemption is requested.

(3) A part clearly labeled "Section I.B." which includes the following statement, signed by the petitioner or an authorized representative:

> I certify under penalty of law that I have personally examined and am familiar with the information submitted in this petition and all attached documents, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information.

(4) A part clearly labeled "Section I.C." which fully explains the basis for the petitioner's request that EPA add the labeling requirements to or remove them from the product which is the subject of the petition, based specifically upon the technical facility or laboratory tests, literature, or economic analysis described in paragraphs (c) (5), (6) and (7) of this section, and the uncertainty and sensitivity analyses described in paragraph (c)(8) of this section.

(5) A part clearly labeled "Section II.A." which fully describes any technical facility or laboratory tests used to support the petitioner's claim.

(6) A part clearly labeled "Section II.B." which fully explains any values taken from literature or estimated on the basis of known information that are used to support the petitioner's claim.

(7) A part clearly labeled "Section II.C." which fully explains any economic analysis used to support the petitioner's claim.

(d) *Criteria for evaluating petitions.* Adequate data in support of any petition to the Agency to add a product to the labeling requirement or temporarily remove a product from the labeling requirement will be evaluated based upon a showing of sufficient quality and scope by the petitioner of whether there are or are not substitute products or manufacturing processes for such product:

(1) That do not rely on the use of such class I or class II substance,

(2) That reduce the overall risk to human health and the environment, and

(3) that are currently or potentially available.

(e) *Procedure for acceptance or denial of petition.* (1) If a petition submitted under this section contains adequate data, as defined under paragraph (c) of this section, the Agency shall within 180 days after receiving the complete petition either accept the petition or deny the petition.

(2) If the Agency makes a decision to accept a petition to apply the requirements of this regulation to a product containing or manufactured with a class II substance, the Agency will notify the petitioner and publish a proposed rule in the **Federal Register** to apply the labeling requirements to the product.

(3) If the Agency makes a decision to deny a petition to apply the requirements of this regulation to a product containing or manufactured with a class II substance, the Agency will notify the petitioner and publish an explanation of the petition denial in the **Federal Register**.

(4) If the Agency makes a decision to accept a petition to temporarily exempt a product manufactured with a class I substance from the requirements of this regulation, the Agency will notify the petitioner and publish a proposed rule in the **Federal Register** to temporarily exempt the product from the labeling requirements.

(5) If the Agency makes a decision to deny a petition to temporarily exempt a product manufactured with a class I substance from the requirements of this regulation, the Agency will notify the petitioner and may, in appropriate circumstances, publish an explanation of the petition denial in the **Federal Register**.

**§ 82.120 Recoverable substances label.**

(a) *Requirement.* Each product identified in § 82.102(c) that is introduced into interstate commerce shall bear a permanent label stating: "Contains [*insert name of substance*]." This labeling requirement is in addition to the warning label described in § 82.106.

(b) *Name of substance.* The name of the controlled substance to be inserted into the recoverable substances label shall be the standard chemical name of the substance as listed in the **Federal Register** notice of January 22, 1991 (56 *FR* 2420), except that:

(1) The acronym "CFC" may be substituted for "chlorofluorocarbon."

(2) The acronym "HCFC" may be substituted for "hydrochlorofluorocarbon."

(3) The term "1,1,1-trichloroethane" may be substituted for "methyl chloroform."

(c) *Placement.* The recoverable substances label shall be permanently placed on the product containing a recoverable substance such that the label is clearly legible and conspicuous to a service person or disposer at the point of service or disposal.

(d) *Type size.* The type size for any recoverable substances label shall not be less than $\frac{3}{32}$ of an inch.

**§ 82.122 Prohibitions.**

(a) *Warning label.* (1) Absence or presence of warning label. (i) On May 15, 1993, no container or product identified in § 82.102(a) may be introduced into interstate commerce unless it bears a warning label that complies with the requirements of § 82.106 of this subpart, unless it has been temporarily exempted pursuant to § 82.118.

(ii) On January 1, 2015, or any time between May 15, 1993 and January 1, 2015 that the Administrator determines for a particular product that there are substitute products or manufacturing processes for such product that do not rely on the use of a class I or class II substance, that reduce the overall risk to human health and the environment, and that are currently or potentially available, no product identified in § 82.102(b) may be introduced into

interstate commerce unless it bears a warning label that complies with the requirements of § 82.106 of this subpart.

(2) *Placement of warning label.* (i) On May 15, 1993, no container or product identified in § 82.102(a) may be introduced into interstate commerce unless it bears a warning label that complies with the requirements of § 82.108 of this subpart, unless it has been temporarily exempted pursuant to § 82.118.

(ii) On January 1, 2015, or any time between May 15, 1993 and January 1, 2015 that the Administrator determines for a particular product that there are substitute products or manufacturing processes for such product that do not rely on the use of a class I or class II substance, that reduce the overall risk to human health and the environment, and that are currently or potentially available, no product identified in § 82.102(b) may be introduced into interstate commerce unless it bears a warning label that complies with the requirements of § 82.108 of this subpart.

(3) *Form of warning label.* (i) On May 15, 1993, no container or product identified in § 82.102(a) may be introduced into interstate commerce unless it bears a warning label that complies with the requirements of § 82.110 of this subpart, unless it has been temporarily exempted pursuant to § 82.118.

(ii) On January 1, 2015, or any time between May 15, 1993 and January 1, 2015 that the Agency determines for a particular product that there are substitute products or manufacturing processes that do not rely on the use of a class I or class II substance, that reduce the overall risk to human health and the environment, and that are currently or potentially available, no product identified in § 82.102(b) may be introduced into interstate commerce unless it bears a warning label that complies with the requirements of § 82.110 of this subpart.

(4) On May 15, 1993, no person may modify, remove or interfere with any warning label required by this subpart, except as described in § 82.112 of this subpart.

(b) *Recoverable substances label.* (1) On May 15, 1993, no product containing a recoverable class I or class II substance may be introduced into interstate commerce unless it bears a permanent label that complies with the requirements of § 82.120 of this subpart.

(2) On May 15, 1993, no person may modify, remove or interfere with any recoverable substances label required by this subpart.

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